

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 PUBLIC MEETING LICENSE RENEWAL WORKSHOP

5
6 Nuclear Regulatory Commission
7 Auditorium, Building 2
8 One White Flint North
9 11545 Rockville Pike
10 Rockville, Maryland
11 Monday, December 6, 1999

12 The workshop commenced, pursuant to notice, at

13 8:30 a.m.

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P R O C E E D I N G S

[8:30 a.m.]

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3 MR. GRIMES: Thank you for coming to this License
4 Renewal Workshop. We're going to start off with
5 introductory remarks by Sam Collins, who will be our keynote
6 speaker for this workshop.

7 Sam is going to set the tone and the stage for us,
8 and then following Sam's introductory remarks, we also have
9 opening remarks from Doug Walters of the Nuclear Energy
10 Institute, and Dave Lochbaum of the Union of Concerned
11 Scientists.

12 In addition to the agenda that's up here on the
13 screen right now, we've posted it outside the auditorium, so
14 you'll know when specific parts of the agenda are coming,
15 and you can plan accordingly.

16 So without any further ado, Sam Collins.

17 MR. COLLINS: Good morning.

18 VOICES: Good morning.

19 MR. COLLINS: I'd like to welcome everybody to
20 Rockville this morning. I can't talk about the Redskins, I
21 refuse to do that.

22 And I can't talk about Dallas, even though I moved
23 up here from Region IV after seven years, because that's
24 verboten in this area.

25 So in honor of the Army Navy Game, I'm going to
tell a Navy story. I think that's safe territory, at least
for this year.

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If you can envision one of the newest nuclear
carriers that we have the luxury of having in this country,

1 it's actually a part of the fleet that you may imagine out
2 there. The Stennis, I believe, is a recent ship that I have
3 had the pleasure of being on.

4 Coming into port after being at a long deployment,
5 headed in in the middle of the night. Of course, a ship
6 like the Stennis would have state-of-the-art electronic gear
7 and would normally have priority.

8 Unfortunately on this night Seaman Jones is on the
9 helm, and if you've seen the wheel of one of these large
10 carriers, it's very interesting. The wheel is about this
11 big.

12 If you're familiar with merchant ships or if any
13 of you are sailors, you know that the helm wheel is usually
14 very large. It's all by wire on these ships, and that's an
15 indication of the technology that's out there these days.

16 Well, Seaman Jones has the opportunity to look at
17 the screen, headed into port, and he notices that there's an
18 obstacle directly in the path of the plotted course of the
19 carrier.

20 And he raises the radio and tries to get in
21 contact with the contact, and acknowledges that he's Seaman
22 Smith and that they are on a carrier headed into port. They
23 have priority, and they would like for whatever this object
24 is to deviate its course so that they can proceed to
25 dispatch.

 There's a crackling sound, and Seaman Smith gets
on the radio and he says, this is Seaman Smith and I
AN acknowledge your contact. We request that you deviate from
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1 Well, Seaman Jones doesn't know how to handle
2 this, so he goes into the room. It happens to be a star
3 carrier, so it has an Admiral onboard as part of the fleet.

4 So the Admiral comes up into the bridge and gets
5 on the radio and says this is Admiral Jenkins. We have
6 priority; we're a very large nuclear carrier, we're coming
7 into port.

8 We request that you deviate from course. There
9 was a crackling on the radio and the reply comes back and
10 says, sir, with all due respect, this is Seaman Smith of the
11 U.S. Coast Guard, we request that you deviate course.

12 The Admiral has had enough of this. He says,
13 we're a flag ship, we're a carrier, we're headed in after a
14 long time at sea, and we demand that you deviate course.

15 There was a long pause, and it comes back, sir,
16 with all due respect, we request you deviate course, we're a
17 lighthouse.

18 [Laughter.]

19 MR. COLLINS: So what you have to realize -- and
20 by way of talking today's discussion, is that it's important
21 to know where you are and what's in your course, and what
22 your obstacles are.

23 And I think some of what's going to be discussed
24 today is along that same vein. We have the opportunity to
25 hear from two other stakeholders, NEI and UCS, and what I'd
like to impart on you is that it's important that we listen
to each other today, and that we weigh the views and that we
move forward.

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A little bit about what I'm going to discuss in a

1 short time today is: Defining success; as you know, the
2 Nuclear Regulatory Commission has embarked on a planning,
3 budgeting, and performance measuring process which has taken
4 up a significant amount of our staff time.

5 It's an important effort, and it's worth that
6 time, but it puts us in a different place than we were two
7 years ago. We now are able to much extent, and we'll
8 improve, but to a large extent we're able to measure our
9 products, we're able to forecast our expenditures, and we
10 are planning our work.

11 License renewal is a big product line for us.
12 It's one of our core products. We have approximately 49
13 FTE, which is individual work employees for a full year,
14 what we call an FTE, and \$2 million dedicated to this
15 effort.

16 When you look at the spectrum of our
17 responsibilities, this is just one of our product lines, but
18 we're talking about nine percent and close to -- nine
19 percent of our FTE budget, and approximately 20 percent of
20 our contact fees.

21 So that gives you an indication of where this
22 effort sits on our priorities and the amount of resources,
23 which is time, people and money, that we're spending on its
24 development.

25 We currently have two renewal applications, and
I'm sure that most of you here are aware that in 1998, we
stared on the Calvert Cliffs Plant in Maryland, and Oconee
facility in South Carolina that comprises five units.

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 There are 13 other plants that have formally

1 announced their intent to submit for licensing renewal.

2 We understand that approximately 80 percent of the
3 fleet is pursuing and/or interested in license renewal. So,
4 if you can envision the product line that we have in the
5 future, you know that this will take a large amount of our
6 resources, and the process needs to be predictable, and it
7 needs to be successful.

8 The prospects of a deregulated electrical market
9 are, in fact, changing our budget assumptions. A year ago
10 or two years ago, we were budgeting one plant shutdown per
11 year.

12 And today, we have changed that budget assumption
13 and we are not budgeting for a plant shutdown per year.
14 Now, that doesn't forecast the future for the industry, and
15 there are certainly a lot of variables out there that can
16 result in a plant shutdown, but as far as a prediction of
17 where to expend our resources, we're now moving the
18 resources from plant decommissioning to license renewal.

19 That's a result of a deregulated electric
20 environment and a difference in competition. How long that
21 will last is a matter of what we see in the crystal ball as
22 we each look into that.

23 But clearly over the past year, our budget
24 assumptions have changed. So this is going to be a timely
25 meeting.

 What are we going to talk about here? We're going
to talk about the development of generic aging lessons
AN learned. I think Chris started the GALL report acronym, and
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LE maybe as a result of today, we can think of a better one,

1 but I believe it is an important effort.

2 The Commission amended the regulations to include
3 safety requirements for license renewal for power reactors
4 in Part 54. Those regulations described a process to
5 identify a set of structures and components that must be
6 subjected to an aging management review which is a basis for
7 granting a renewed operating license for a total of a
8 60-year term.

9 The focus of the workshop today will be the
10 adequacy of the existing programs to effectively manage
11 aging effects, with a scope of passive structures and
12 components described in Part 54.

13 As we look at operating experience, day-to-day,
14 every morning we have a meeting at 7:45 at the EDO, Dr. Bill
15 Travers attends, we look at the operating experience for the
16 fleet for the past 24 hours and over the weekend that covers
17 the weekend period.

18 We have a group that's dedicated to looking at
19 plants in the short term, and at generic reviews in the long
20 term.

21 There are day-to-day activities that are
22 considered for license renewal implications. What are
23 those?

24 Aging of components; aging of cables; certain
25 structural aging effects; all of those are considered
day-to-day.

 We know that you may have other concerns about
AN license renewal, including disposal of high-level waste,
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RI maintenance of the licensing basis, spent fuel storage,
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1 environmental impacts addressed under Part 51, and broad
2 concerns about safety and regulatory burdens.

3 We'll try to concentrate the dialogue today on
4 aging management programs, but we will continue to provide
5 forums to discuss those other important areas.

6 Earlier this year, the Commission addressed a
7 fundamental issue to the extent of licensing renewal review
8 in response to an issue entitled Credit for Existing
9 Programs for License Renewal. That's under Commission paper
10 SECY 99-148.

11 In response to that issue, the Commission directed
12 the staff to develop a report on the aging lessons that
13 would clearly identify the program needs to be augmented to
14 ensure that they can adequately manage the effects for the
15 standard period.

16 Today's meeting is just a part of the success in
17 that endeavor. This will be an initial attempt to get
18 feedback on how we're proceeding with the development of
19 generic aging lessons.

20 As we move forward, it's important, I think, to
21 define success for this meeting. As we go around the table,
22 those of you who are observers today, hopefully many of you
23 will participate, have in your own mind, what do I need to
24 know by the time I leave the meeting today? How would I
25 define success for the period?

AN This is a fairly resource-intensive meeting. Look
N around the room; we have many staff dedicated here, and we
RI have representatives from the industry, certainly. Looking
LE at the sign-in sheet, I know we have other interested

1 citizens, as well as individuals who are part of the
2 industry in one form or another.

3 I would hope that each of you has in your own
4 mind, an definition of success, and your participation to
5 day can make that come to fruition.

6 The overriding goals of the NRC have been defined.
7 If you look at our strategic plan, we have four outcome
8 measures that we currently operate by: Maintaining safety;
9 increasing public confidence; increasing the effectiveness,
10 efficiency and realism of our decisionmaking; and reducing
11 unnecessary burden.

12 Each of those applies in a manner to the
13 discussions today. There should be no argument on the
14 priority of maintaining safety.

15 Safety will be served in the license renewal
16 process by ensuring that the programs, procedures and
17 practices in use to monitor and maintain plant systems will
18 adequately identify and correct the degradation caused by
19 aging. That's the benchmark.

20 The others are a little more difficult. Public
21 confidence: This meeting is an example of the attempt to
22 get interested individuals involved in the process.

23 Public confidence is more a matter of where you
24 sit, than it is a matter of defining success ahead of time.
25 Participation is clearly a significant factor in improving
public confidence. Being responsive as an Agency is also a
means of success.

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In the area of reducing unnecessary burden, it's
important to maintain a balance; that balance being that the

1 rules and regulations that are put forward and the guidance
2 that comes about as a result of the meeting today, needs to
3 provide for a level playing field.

4 It needs to be predictable, scrutable, and clear,
5 while maintaining safety.

6 I would hope that the meeting today would
7 accomplish the goals put forward. I would hope that each of
8 us would feel the need and the willingness to participate,
9 and I would hope that at the end of the meeting, that you
10 have met, at least in part, your definition of success as
11 you sit and as you choose to define it.

12 I wish you luck today. I will be here for the
13 opening comments, and I'm able to respond to questions at
14 this time. Thank you.

15 Questions? I know David has a question? No?
16 Letting me off easy? Any questions outside of License
17 Renewal?

18 [Laughter.]

19 MR. ELLIOTT: Yes, I have a question. Did the
20 Admiral give away the ship?

21 [Laughter.]

22 MR. COLLINS: I'm going to have to say yes because
23 the Stennis is still around. That was a good question,
24 though.

25 Okay, good luck.

MR. GRIMES: Thank you, Sam. The next opening
remarks are going to be by Doug Walters from the Nuclear
AN Energy Institute.
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MR. WALTERS: Thank you, Chris. That's a tough

1 act to follow. I'm sorry I don't have any -- I can't talk
2 about the Redskins, either, because it was a dismal weekend
3 for them.

4 My name is Doug Walters with the Nuclear Energy
5 Institute. We certainly appreciate the opportunity to be
6 here today, and there is a number of utility folks around
7 the table that participate on our task forces and working
8 groups, and they will be more than wiling, I'm sure, to
9 provide input as we go through the day.

10 I'd like to start off with and pick up on
11 something that Sam Collins mentioned, and that is GALL is
12 really an outgrowth of a policy issue that we had earlier
13 this summer on credit for existing programs.

14 And I'd like to go back to that for just a minute
15 and highlight a few things that were said in the
16 Commission's vote sheets when they directed the staff to
17 move forward with GALL.

18 One observation is -- and these are quotes, "The
19 objective of the Staff's review of existing programs must be
20 to determine whether the detrimental effects of aging are
21 adequately managed. This does not mean that the license
22 renewal review should reaffirm the adequacy of the current
23 licensing basis."

24 Another observation: "For those existing programs
25 not requiring modification during the extended period of
operation, the applicants can use the GALL report and should
only be required to provide the necessary and sufficient
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N descriptions of their existing programs, including how the
RI
LE programs will manage those effects."

1 And lastly, "GALL will document the basis on which
2 existing programs are found adequate for license renewal and
3 prescribed attributes from such programs. What is not clear
4 is the process by which these attributes will be derived,
5 what process controls will be used to prevent attribute
6 creep, or attribute shrink, and how stakeholder
7 disagreements over the scope of these attributes will be
8 resolved."

9 And I think those are some important remarks from
10 the Commissioners, and I think we certainly share those. I
11 think today is the first step in addressing some of those
12 concerns, and while the focus of the workshop today is
13 specifically on programs, I think we need to be mindful of
14 these other objectives.

15 Our view, or the industry's view on existing
16 programs, I think is well documented and fairly clear. But
17 I wanted to reaffirm that it's not our position that for
18 license renewal, you merely say I have a program and
19 therefore -- and it exists today, and therefore it's
20 adequate.

21 We think if GALL is done properly it will go a
22 long way toward making renewal predictable and stable, as
23 Sam Collins mentioned. Now, done properly, I think means
24 different things to the different stakeholders. To us it
25 means applying discipline to the process, making certain
that enhancements are truly necessary for managing aging.

 We shouldn't have enhancements to programs because
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N somebody has got their own agenda about the adequacy or
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LE inadequacy of the program, and I think that we go through

1 GALL, if there is a yes in the column that says further
2 evaluation needed, there needs to be a well documented basis
3 as to why that is so.

4 Done properly also means that, at least in our
5 view, the starting point for the review of any existing
6 program should be that it is already adequate. That is what
7 we believe the principles of license renewal provided us.
8 And, as I said, the basis for the enhancement should be well
9 documented.

10 Done properly also means we need a thorough
11 review. We need all the stakeholders involved in the review
12 of the GALL report. And, again, this workshop is a good
13 start at that, and I think the NRC deserves a lot of credit
14 for scheduling as quickly as they did and getting the report
15 done as quickly as they did.

16 Also, done properly means that it can be used and
17 is useful. I think that is still a little unclear how we
18 are going to integrate what comes out of GALL into other
19 activities. And I would also offer that we certainly see
20 that there would be a benefit to the NRC staff reviewers
21 with GALL, but I think there has got to be a benefit to the
22 applicants as well, and we need to be mindful of that.

23 And, finally, I think we should not sacrifice the
24 quality of the GALL for schedule. We ought to take the time
25 that is needed to review it and do the review properly, and
make sure that we can put out the best product as possible.

AN In closing, I think that leads to what is the real
N purpose of GALL. We think the purpose is to identify where
RI aging effects on the structures and components that are in
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1 the scope of renewal are not adequately managed by existing
2 CLB programs, that should be the focus. We shouldn't be
3 going back and revisiting what we do today. And GALL should
4 also have an objective of focusing on identifying the deltas
5 in the COB.

6 With that, that concludes my formal comments.
7 Again, we thank the NRC for having the workshop and we look
8 forward to working with all the stakeholders to get to a
9 final product. I don't know if there is any questions, but
10 if there are, I would be happy to address those at this
11 time. Thank you.

12 MR. GRIMES: Any questions for Doug?

13 [No response.]

14 MR. GRIMES: I don't think group has yet wakened.
15 All right. Well, if there are no questions for Doug, then
16 our next speaker is going to be Dave Lochbaum from the Union
17 of Concerned Scientists. Dave.

18 MR. LOCHBAUM: Good morning, my name is David
19 Lochbaum with the Union of Concerned Scientists. I have
20 some slides and some handouts that I will -- it was
21 suggested I don't pass them out in advance, but I will be
22 able to give away at breaks and at lunch until they go away.

23 We are here today to discuss aging management.
24 Off to a good start. I mean to bring a slide turner and a
25 pianist, but I had trouble with both. Slide 2, please. We
see currently, in the 15 minutes we were allotted, two
problem areas, the first being that the current NRC staff
position on aging seems to be based on three questionable
assumptions. Three was just the number I could come up with

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1 for 15 minutes, we actually think it is longer than that,
2 but these are the top three.

3 The second problem area is we think the -- Mr.
4 Collins' opening remarks talked about balance. We think the
5 current NRC staff approach is one-directional and is not
6 balanced. I would like to give some examples of why we
7 think that.

8 Slide 3. One of the assumptions -- the impression
9 we go from reading the GALL report was that there is a lot
10 of assumptions made like this one, quote, "being all
11 components in the steam turbine system or classified as
12 Group D quality standards." There is a lot of statements
13 like this about GALLs and NUREGs, this or that, taking care
14 of certain errors. And there has been -- it is not clear to
15 us that any effort has been made to ensure that these are
16 bounding statements. They seem to be simplifying statements
17 to reduce the level of effort. Unless they are bounding
18 statements, there is no reason to pursue on this path.

19 Slide 4. The second assumption was there seems to
20 be a lot of credit in there, in the GALL report for things
21 like this, while no requirement currently exists for such a
22 program, in this case the electrical bus inspection program,
23 periodic visual inspection of electrical buses is a
24 potential method of managing aging degradation for these
25 components. That statement, with different comments in the
brackets, applies all the way through the program.

AN The GALL report either needs to say we need to do
N this or we don't need to do this. These kind of statements
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LE I think just confuse the issue. So it either needs to be a

1 requirement or not need to be a requirement. This needs to
2 go away.

3 Slide 5. And the biggest comment, or problem
4 assumption we see is the issue of boilerplate. Section
5 54.29, the conditions under which the Commission issues the
6 license renewal, states, part of it -- there is a bunch of
7 things that have to be done, and then with all that being
8 done, there is reasonable assurance that the activities
9 authorized by the renewed license will continue to be
10 conducted in accordance with the CLB, which I looked up,
11 stands for Current Licensing Basis. That was issued on May
12 8th, 1995.

13 Slide 6. On October 9th, 1996, the NRC sent a
14 letter to every plant owner in the country except Millstone,
15 that said these words, and I won't read the whole thing, but
16 one of the things it found was that the NRC staff found that
17 some licensees were failing to appropriately maintain or
18 adhere to the plant design bases, appropriately maintain or
19 adhere to the plant licensing basis, which seems to
20 undermine the assumption made in the license renewal rule.

21 Slide 7. There is further data that this
22 assumption may not be good and that some of it exists in our
23 report issued in June of 1998. We looked at the Calvert
24 Cliffs plant from January of 1997 to March of 1998 and found
25 that 25 percent of the problems that were reported by the
plant owner and the NRC involved design error. That is not
our characterization of the issues, that is what the NRC and
the plant owner said. We just added them up and divided by
the total number. So that gave us 25 percent.

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1 Public Citizen, in a report issued in August of
2 this year, looked at over 500 instances of plant owners
3 reporting that they were outside design basis. There is
4 some overlap because Calvert Cliffs is in that universe, but
5 not entirely. So all of these were reported after the May
6 1995 license renewal rule.

7 Slide 8. So, basically, the 1995 license renewal
8 rule assumed that the current licensing basis, and I will
9 expand it to include design basis, is being met at operating
10 plants. The data since that rule has come out shows that
11 these assumptions are not very valid. So if there is
12 lessons to be learned, we think that it is the design and
13 license can't be assumed to be sacrosanct.

14 Slide 9. Turning to what we feel is the lack of
15 balance in the approach so far, there is two examples we
16 will throw out. One of them has to do with this statement,
17 somewhere, page 5 or 6, A-6, there are some words about
18 electrical cable failures and there is data on how many
19 there have been and what caused them and whatnot. But,
20 basically, the staff concluded that most of the failures are
21 detected by operation of the component. Relatively few are
22 detected by maintenance or surveillance. So that was the
23 NRC staff's finding in this area. And this also, this
24 finding also applies to things other than cable failures,
25 but this was the example we picked.

 At the same time as the license renewal is going
forward, the staff is in the effort of meeting the fourth
AN goal of reducing burden. It is reducing the testing
N RI interval for a lot of equipment, through standard tech specs
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1 and also the individual license amendments.

2 We feel that since aging is known to cause bad
3 cables and bad cables can only be detected by operating
4 equipment, somehow license renewal and these efforts to
5 reduce testing frequency seem to be contradictory. One or
6 the other should go forward, perhaps not both.

7 On Slide 10 there is another example of what we
8 feel is the lack of balance. It appears to us that the GALL
9 report is an attempt to first look at the whole definition
10 of what is to be considered under the concepts of Part 54
11 and to reduce that based on lessons learned from the first
12 two plants and other activities. It doesn't appear to us,
13 from looking through this report and the associated data, or
14 documents, that there is an effort to expand that scope
15 based on any lessons learned. It all seems to be to reduce
16 the scope.

17 And the concept of maintaining the safety, the
18 first of the NRC's four goals, it looks like there ought to
19 be, at least on paper, some mechanism for doing that.
20 Whether it actually ever happens or not is another thing,
21 but at least on paper, there needs to be a mechanism for
22 saying that there is the potential for finding something
23 that caused you to consider whether that needs to be
24 expanded, even perhaps to some plants that have already been
25 granted license renewal, and we don't see any indication
that that is happening are included.

AN Slide 11, the last slide. I guess the
N recommendations we would have would be that the one size
RI fits all approach shouldn't be used unless it is proven to
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1 be bounding. We don't see that that kind of analysis has
2 been done, or that this conclusion has been reached.

3 Second, we think that no credit should be given
4 for programs which do not exist. We are not going to agree
5 or disagree that they could be successful, but the fact is
6 that they are not there.

7 The third recommendation is given a priority
8 because we think that is the most important, and that is
9 that penalties should be very harsh for licensees that fail
10 to conform to the conditions of their license. That has not
11 been the case in the past.

12 Some of the data we didn't include in this report
13 was 1997, where D.C. Cook and Vermont Yankee, and a number
14 of other plants had architect-engineer inspections and there
15 were some very serious deficiencies found at these plants.
16 And they had to fix the problems, which is a given. I mean
17 that should -- at least we hope that continues to be a
18 given. But there was very little regulatory consequence
19 from them violating their license for as long as they did,
20 and we were concerned that that lack of penalty for not --
21 for licensees not meeting their obligations of their
22 licenses, if it continues forward in the license renewal, it
23 is just totally improper.

24 The fourth recommendation is that license renewal
25 should not proceed in a vacuum. And what we mean there is
that there is other NRC programs going on that should be
looked at to see if they are consistent with the goals of
license renewal. The example we gave was reducing testing
frequency. There are others, but we don't see a lot of

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1 integration of this effort in with other NRC activities, the
2 product line that Mr. Collins referred to.

3 And the last recommendations, we think the
4 findings should trigger, or at least on paper, trigger an
5 extent of condition evaluation to see if the scope maybe
6 should be increased or that the decision should be reviewed.
7 Thank you. I will take any questions if there any.

8 MR. GRIMES: Are there any questions for Dave?

9 [No response.]

10 MR. GRIMES: Well, I am sure we will get some
11 questions for Dave as the day progresses.

12 MR. LOCHBAUM: I studied state capitals last
13 night.

14 MR. GRIMES: The next item on the agenda is for me
15 to talk. It just occurred to me, I haven't introduced
16 myself. Maybe that was a presumption on my part. I am
17 Chris Grimes, I am the Chief of the License Renewal and
18 Standardization Branch. And I am going to start off by
19 talking about the most important matters. The bathrooms are
20 on the opposite side of the atrium. A number of other
21 administrative actions, please be comfortable. If you need
22 to excuse yourself, go right ahead, we are going to press
23 forward today and try and stay on schedule.

24 There will be two breaks, we will have a morning
25 break and an afternoon break, and then we will break at
lunch. I apologize for the weather, which means that we
might increase the constituents here in the cafeteria. For
AN those of you who are visitors, there is a way that can go up
N RI in the elevator and go to the cafeteria and get back, so
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1 there is a security guard upstairs to allow you to get back
2 and forth to the facilities.

3 The meeting is being transcribed, and that is so
4 we can go back after this meeting and gather these comments,
5 and collect them and evaluate them and try and analyze them
6 and decide how that we can use all the feedback that we get
7 today to improve our plan and to address our stakeholders
8 concerns.

9 We are not going to have handouts. There will be
10 copies of the GALL report and we encourage you to pick up a
11 copy when you leave, but I didn't want you fiddling with
12 paper and reading the GALL report, because we would prefer
13 that you contribute to the dialogue and concentrate on
14 commenting on the particular issues that we are trying to
15 address.

16 I hope that everyone will speak, but we don't want
17 you to speak all at once. So in my role as the lead
18 facilitator and the moderator, if you have a comment or
19 question, please don't interrupt the speaker. Let the
20 speaker finish their remarks, and then if you want to
21 comment or ask a question of a speaker, for those of you
22 sitting at the table, if you will put your name tents up,
23 then I will call on you in turn so that we can have some
24 order to the way that the comments are being made. Please
25 be courteous.

My job will be to keep us on schedule, because
these facilities are being used this evening by

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Congresswoman Morella and so we need to adjourn promptly at
5:00 so that the staff can rearrange the room in preparation

1 for the evening session.

2 We want to cover as many aging management programs
3 as possible. If I feel like we have dwelled on one program
4 to the exclusion of the possibility of bringing up other
5 programs, then I may ask the speaker to summarize and try
6 and move on to another topic area.

7 For those of you who are speaking from the table,
8 there are microphones around, but you may have to ask your
9 neighbor to pass the microphone over to you. We also
10 encourage the people in the audience to speak as well.
11 There are standing mikes on either side, and if you want to
12 speak, you don't have a name tent to put up, but if you will
13 just walk up to the microphone, then you will get your turn
14 as well.

15 Could I have the -- oh, the purpose slide is up
16 there. The purpose of this workshop, as has been mentioned,
17 I want to emphasize this is for us to gather feedback from
18 our stakeholders on which aging management programs need to
19 be augmented for renewal, and which are considered to be
20 adequate as they are currently being implemented.

21 Dave and Doug both identified a challenge in that
22 regard. We need to identify program attributes and, also,
23 the way in which our expectations about how those programs
24 are going to be implemented. Those need to be clearly
25 recorded in terms of what conditions they impose on licenses
for the future.

AN Depending on how you count, there are somewhere
N between 10 and 40 percent of the programs that are expected
RI to be referred to for license renewal that need to be
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1 modified or created in some way, and that is based on the
2 limited experience that we have had so far from the first
3 two license renewal applications.

4 Our purpose in the GALL report is try and catalog,
5 with as broad a consensus as possible, the expectations for
6 the attributes of effective aging management programs, and
7 those attributes would then become a standard by which we
8 would judge the acceptability of particular plant-specific
9 programs.

10 If you pay close attention to the agenda, GALL is
11 divided into three parts. Nobody got it. It seems like I
12 am the only one who paid that close attention in history
13 class. Despite the historical significance, these were
14 natural groupings that came out of the NEI explanation about
15 concern about credit for existing programs. We simply
16 divided the programs into a regulatory practice grouping,
17 those that are required by regulations, those that have
18 evolved from plant operating experience, and those that are
19 general practice programs that apply to more than just the
20 nuclear industry.

21 Dr. Sam Lee is going to describe our vision of the
22 GALL report, the Standard Review Plan and how it might be
23 referenced, the Regulatory Guide and the expectations for
24 changes to the Industry Guide, NEI 9510, as well as the
25 groupings of these programs, the typical attributes of aging
management programs. And we encourage you to comment on
those framework aspects as well.

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If you have comments on the groupings or the way
that we envision developing GALL, and I can't take credit

1 for creating it. Actually, my predecessor came up with the
2 first Generic Aging Lessons Learned when we catalogued aging
3 effects in NUREG/CR-6490. I always get the number wrong.
4 But it was also summarized in NUREG-1557. So GALL predated
5 us, but the concept that there will be Generic Aging Lessons
6 Learned is probably one that we will carry forward in the
7 future.

8 For the particular sessions on the groupings of
9 programs, we have staff who have volunteered -- sort of
10 volunteered, to serve as facilitators. Barry Elliot, who is
11 going to lead the first group. Stephanie Coffin is going to
12 lead the second group. Both Barry and Stephanie are from
13 our Materials and Chemical Engineering Branch. And the
14 third group on the general programs is going to be led by
15 Jit Vora, who is from our Office of Research. And this also
16 demonstrates that this is a cross-agency effort. We are
17 being supported very well by the Office of Research, by the
18 regions in reflecting on this experience and developing
19 improvements for the processes that we are trying to
20 develop.

21 Could I have the schedule slide, please?

22 As Sam mentioned, this is an early outreach
23 attempt to get feedback from our stakeholders in our
24 development of generic aging lessons learned and revised
25 guidance for the conduct of a license renewal review.

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In August of 2000 we expect to issue revised
generic aging lessons learned in a Standard Review Plan and
a Regulatory Guide in order to solicit formal comments on
those documents.

1 In September of 2000 we will hold a public meeting
2 to discuss this topic further and to see what kind of
3 progress we have made or what issues have now come into
4 focus.

5 In November of 2000 we will hold a Commission
6 meeting and we will summarize the feedback that we have
7 gotten from even before today throughout the development of
8 the generic aging lessons learned, Standard Review Plan and
9 the Reg Guide.

10 In February of 2001 we are going to have an ACRS
11 meeting and we are going to talk to the ACRS about our
12 experience and what issues were raised, what feedback we got
13 and we are going to get feedback from the Advisory Committee
14 on Reactor Safeguards before the Commission is asked to make
15 a final decision on the acceptability of GALL and the review
16 guidances.

17 Then following that we were asked by the
18 Commission to develop some recommendations on rulemaking in
19 order to revise the rules where appropriate, in order to
20 reflect on the experience and the lessons that we learned
21 from the improved guidance.

22 In May, 2001 we scheduled a public meeting to
23 discuss rulemaking possibilities. As Sam mentioned, our
24 purpose today is to try and focus on comments and feedback
25 related to how programs need to be augmented for the purpose
of license renewal or how they might be considered adequate,
but any comments that you have about the license renewal
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N process, about the development of the guidance, about
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LE related issues you, can give those to us at any time.

1 License renewal has a separate part of the NRC web page and
2 there is a place there that you can leave comments for us if
3 you want, or you can send me the comments directly. We
4 would like as much feedback as we can so that we make sure
5 that our process clearly reflects the interests of all of
6 our stakeholders.

7 So those are the essential ground-rules and
8 expectations for today. Are there any questions about what
9 we want and hope to accomplish? Mr. Walters?

10 MR. WALTERS: Yes. Given your stated purpose, and
11 the fact that GALL at least is drafted and we are going to
12 get copies of that, to the extent that you would get
13 feedback today that somehow would alter what is in GALL, are
14 you going to talk about how you are going to deal with that?

15 MR. GRIMES: Actually we anticipated that after
16 today's session what we would do is we would step back and
17 we would look across all of the comments, and the nature of
18 the comments, and then we would use that feedback in order
19 to decide what the next steps should be and where to go with
20 the comments. Depending on the feedback that we get, we
21 might decide that we want to go for a different format or
22 reorganize it completely, so we are going to try and stay
23 flexible.

24 I realize that that also offers some uncertainty,
25 but as soon as we can reflect on the comments and decide
what the next steps should be the schedule provides
basically the overall framework and we would expect that
AN after today's session that we would fill in some more detail
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LE on these plans because we want to try and establish a scope

1 of effort that is going to be achievable as well as
2 responsive to all the comments that we get.

3 Yes, Dave?

4 MR. LOCHBAUM: Based on the schedule you have up
5 there, have you given any consideration to not taking any
6 new applications until you figure out what the rules are
7 going to be?

8 MR. GRIMES: No, we really haven't. We felt that
9 the guidance that we had in the Standard Review Plan that
10 was criticized by NEI in terms of the lack of credit for
11 existing programs it worked reasonably well in the first two
12 applications and that we are now talking about details of
13 programs where it is more of efficiency/effectiveness
14 improvements in the process, but we have not considered a
15 moratorium on license renewal.

16 MR. LOCHBAUM: If you are confident with that, why
17 do this? It seems it would be a waste of resources.

18 MR. GRIMES: We believe that these are the best
19 way to apply resources in terms of gathering this feedback
20 and improving on the process. We don't feel like the effort
21 that we put in on the first two applications was a failure
22 in any way. We think that we are talking about making an
23 improvement in that process, and also focusing our feedback
24 in terms of being able to more clearly articulate the basis
25 for our findings and how we are proceeding with these
licensing actions for the future.

AN Any other comments or questions about the purpose
N of today's session or how it is going to be conducted?
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[No response.]

1 MR. GRIMES: If not, then the next speaker is
2 going to be Dr. Sam Lee. Sam is the principal author and
3 coordinator for the Standard Review Plan and the GALL
4 activities. He is going to describe our vision of how these
5 reports are being developed and how we are going to feed the
6 experience back into their improvement.

7 DR. LEE: I am going to start with the background
8 and overview. The first slide here shows that the license
9 renewal is focused on managing aging of long-lived passive
10 structures and components that are within the scope for
11 license renewal.

12 In the initial applications, which are the Calvert
13 Cliffs and Oconee applications, those applications indicated
14 that most of the programs relied on managing aging for
15 license renewal are existing programs and these led NGI to
16 submit a letter which is the credit for existing programs.
17 Next slide, please.

18 The issue is to what extent should the Staff
19 review existing programs relied on by an applicant to manage
20 aging for license renewal.

21 NEI's point is that existing programs are subject
22 to the current regulatory oversight, so what was the purpose
23 of the license renewal review? So we agree that this is a
24 policy issue and this was evaluated to the Commission for
25 decision and the Staff prepared a SECY paper that Sam
Collins mentioned earlier, SECY 99-148. In there the Staff
discussed options and described the rule requirement the way
AN we understand it and ask for Commission direction. May I
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LE have the next slide?

1 We briefed the Commission and as a result the
2 Commission directed the Staff to write a Staff Requirements
3 Memorandum to focus the review guidance in the Standard
4 Review Plan for license renewal only on areas where existing
5 programs should be augmented.

6 To achieve that the Commission directed the Staff
7 to prepare the Generic Aging Lessons Learned, the GALL
8 report, which is a generic evaluation of existing programs
9 to identify the deltas or where the holes are so we can
10 focus in SRP. We had to develop the SRP and the Reg Guide
11 and one of the important features in the SRM was stakeholder
12 involvement. The Commission really wanted stakeholder
13 involvement in developing this guidance document and we had
14 to brief the Commission on public comments and seek
15 Commission approval on publication of this guidance
16 document.

17 As Chris mentioned earlier I guess on the
18 schedule, these activities are scheduled now for next year
19 for the Commission briefing and also the Commission wanted
20 the Staff to return with some recommendation for rulemaking
21 to revise the rules to improve the license renewal process.
22 That includes addressing the credit for existing programs.
23 After we have done some more additional, we will.

24 Chris has a very aggressive schedule and we are
25 here to try to achieve that. The next slide there talks
about the GALL report in more detail. GALL is a generic
evaluation of existing programs and they document a
AN technical basis when a program is found adequate to manage
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LE aging for license renewal without change, and we also point

1 out areas where the program needs to be augmented for
2 license renewal.

3 The GALL report is built on a previous report
4 which is NUREG/CR-6490 and I will go into that in a little
5 more detail and the GALL report reviews the aging effects,
6 identifies the existing program, and then it goes into an
7 evaluation of the program attributes to manage aging and the
8 recommendation.

9 Here is the first copy of the GALL report. It is
10 a pretty hefty document and it was prepared by the Argonne
11 and Brookhaven National Labs under contract with NRC and
12 this version has incorporated the comments from the Staff
13 who have reviewed it -- the Calvert Cliffs and Oconee
14 application -- and as Chris mentioned early on, you will be
15 able to pick up a copy of this on your way out at the end of
16 today's workshop.

17 We are making this first cut of the draft GALL
18 report publicly available in an attempt to get early
19 stakeholder involvement, even though our schedule is to
20 issue the draft GALL for official public comment next
21 August. The idea is to engage the stakeholders early so we
22 can start considering the comments and hopefully we will
23 move closer to the target by the time we issue it in August.
24 Can I have the next slide?

25 Here is the NUREG/CR-6490. This the previous GALL
report which is an extensive and systematic compilation of
plant aging information. Their focus is mostly on aging
AN effects. It is based on a review of a large number of
N existing documents and is based on the Nuclear Plant Aging
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1 Research (NPAR) program. This is a significant research
2 program sponsored by the Office of Research. It was
3 conducted over a ten year period and involved five National
4 Labs and they produced over 150 NUREG reports, I think. The
5 focus is on plant aging.

6 They also included the NUMARC, which is now NEI,
7 industry report on addressing aging management on major
8 plant equipment for license renewal. This is the same
9 report that the Staff was reviewing at the time we were
10 asked to revise the rule back in '95.

11 It also included operating experience, such as the
12 LERs and generic communications and now the Staff is
13 extending this GALL report into the evaluation, the
14 identified existing program and evaluation of the attributes
15 of the program and that is what this current effort is. May
16 I have the next slide?

17 This is the Standard Review Plant for License
18 Renewal, the SRP. The purpose of the SRP is to provide
19 guidance to the Staff on how to review a license renewal
20 application. As indicated in the Commission SRM we are to
21 revise the SRP to focus the review on areas where existing
22 programs should be augmented for license renewal.

23 The GALL report becomes a technical basis document
24 for the SRP on the evaluation of the existing programs. We
25 still have to develop the template or methodology to
incorporate the GALL report into the SRP. For example, if
the GALL report says a program is adequate without change,
AN how would the SRP characterize that in terms of providing
N RI guidance to the Staff? How much should the Staff review?
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1 Those details need to be worked out. I guess NEI will
2 mention that this is an important area we need to work out
3 because this also influences how much information the
4 applicant has to submit in the application.

5 Also, if an area needs to be augmented, we still
6 need to develop guidance in terms of what are acceptable
7 methods to augment existing programs.

8 In this SRP we also incorporate lessons learned
9 from I guess the Calvert Cliffs and Oconee applications and
10 rule implementation experience and also to improve the
11 license renewal process we have agreed with NEI on a
12 standard format of a license renewal application, so we will
13 start standardizing applications. In the SRP we conform to
14 the standard format. They'll have the Staff review. When
15 an application comes in, we can divide the application up
16 and go directly to the corresponding section in the
17 SRP to do our review. Okay, may I have the next slide,
18 please?

19 An important document is the Reg Guide for license
20 renewal. NEI has developed industry guidance on
21 implementing the license renewal rule. That is NEI 95-10.
22 They started with previously issued draft Reg Guide to
23 endorse NEI 95-10. NEI is now revising 95-10 to incorporate
24 lessons learned and the Staff plans on reviewing the revised
25 95-10 for endorsement in the Reg Guide.

Now I will go into more detail of the framework of
the GALL report. This GALL report is the table of contents
AN and two other chapters have been released earlier and those
N
RI are the steam and power conversion and the electrical
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1 components.

2 The GALL report is set up based on the structures,
3 systems and components and as David Lochbaum and the Union
4 of Concerned Scientists read some of the chapters they
5 already provided us comments, and here is the first cut of
6 the draft GALL report and those two earlier sections are in
7 here also. Can I have the next slide?

8 The GALL report is basically tables. It consists
9 of a lot of tables and here are the table columns. It talks
10 about identify the structure and component, the materials,
11 the environment, and applicable aging effects need to be
12 managed, and it goes into identifying the existing aging
13 management program and then a generic evaluation of the
14 program attributes to manage the aging.

15 In the last column it says "further evaluation" --
16 if the generic evaluation of the program attributes
17 determines that the program is adequate without change to
18 manage the aging effects of that particular component, the
19 last column will indicate no further evaluation is
20 recommended for license renewal.

21 If a generic evaluation identifies a delta or an
22 area where the existing programs should be augmented, the
23 "further evaluation column" directs the Staff to where the
24 program should be augmented. Next slide, please.

25 The next slide talks about the attributes or the
elements of an aging management program GALL uses. There
are 10 elements, such as the scope of the program, what does
AN the program cover. It covers the structures and components
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LE you are taking credit for and any preventive action and what

1 kind of inspection the program has, can the program detect
2 the aging effects, and what kind of inspection frequency and
3 monitoring you have and what criteria for taking corrective
4 action -- so to do inspection, you find certain indications
5 and how big an indication would take you into the corrective
6 action arena.

7 They have got corrective action and administrative
8 control -- can this program be changed? Does it go through
9 reviews before it can be changed? The last one is operating
10 experience, what kind of experience do you have with this
11 program. Has this program been successful in identifying
12 aging effects? Has feedback been provided to a program to
13 enhance the program, if it is needed to be? So GALL, the
14 framework of GALL, is that we take the component, we
15 identify aging effects, and then we look at the existing
16 program and then based on these 10 program attributes we do
17 a generic evaluation to identify if this program is
18 adequate. That is the purpose of GALL.

19 Then we document the basis and then we identify
20 the deltas or the areas where the program should be
21 augmented. That would need to go into the SRP to focus the
22 Staff review. This concludes my overview and background.

23 Are there any questions? Yes, Dave?

24 MR. LOCHBAUM: I don't know what number slide it
25 was, but there was a slide that looked at the number of
documents that were reviewed for the predecessor to the GALL
report. I notice that it listed a number of NRC documents
and NEI documents.

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UCS issued a number of reports on aging. Public

1 Citizen's issued a number of reports on aging. NIRS has
2 issued a number of reports on aging. I was curious that
3 none of those documents seemed to be included in what was
4 reviewed for lessons learned.

5 I don't care whether you looked at them or not.
6 That is really not the issue directly about what was in
7 there, but I think it goes to why there is not a lot of
8 public interest groups here today.

9 We tend to believe, whether it is a fair
10 impression or not, but the perception is we are being
11 patronized. Our comments are being solicited so you can
12 tell the Commission, yeah, we contacted the external
13 stakeholders, they sat at the meeting -- look, here is the
14 attendance list with their signature -- but their views are
15 being filed away somewhere.

16 The fact that we spent some effort developing
17 these reports and they are not reviewed I think reinforces
18 that perception again. Whether it is valid or not we can
19 debate but I just wanted to point that out.

20 MR. GRIMES: No, that's a good comment. As a
21 matter of fact, I would like to add to that that when we
22 have been talking about generic lessons with the Advisory
23 Committee on Reactor Safeguards they had suggested that we
24 try to establish some kind of peer review by recognized
25 scientific groups. There are a lot of references in the
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GALL work and the preceding contract work that get back to
some research results, international information, regarding
aging effects and aging mechanisms, but to the extent that
the credibility of this effort can be better served by

1 having a more expansive resource base that we draw on, that
2 is a good comment and we will take that under consideration
3 to see if there isn't something we can do.

4 I will also contact you about getting a list of
5 the references that we ought to consult. Chris?

6 MR. COLLINS: David, just a question, just to be
7 sure I understand. Did you submit those to the NRC for
8 review under Request for Review and Inclusion for License
9 Renewal?

10 MR. LOCHBAUM: I don't know. The series that I am
11 thinking of was written before my time by Bob Pollard.
12 There's a series of three monographs on aging. I don't know
13 if they were or not. I didn't check that in the history. I
14 know that the ones that Jim Riccio developed were, because
15 he gets called periodically from the Staff because there is
16 a copyright notice and for FOIA requests or anything else
17 Jim gets called to give a release so that material can be
18 out, so I know Jim has provided his reports to the
19 Commission, a number of reports.

20 I assume ours are, but I can't say that because I
21 don't know for a fact.

22 MR. COLLINS: Chris, do we have a process by which
23 input from stakeholders would be considered along with
24 industry information?

25 MR. GRIMES: As I mentioned before, the process
right now is we are soliciting comments broadly and then we
will review those and then we will take all those comments
and then try and advise our stakeholders about how we are
going to proceed with those comments.

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1 Is there a question or comment from Paul Gunter?

2 MR. GUNTER: My question is on the attributes
3 program and the concern I have, and Dave might be able to
4 help me out with this.

5 I suppose I could approach it more through a
6 specific example without naming a licensee, but we have had
7 some problems in the past with regard to the analysis for
8 determining particular age-related degradation mechanisms,
9 one in particular, intergranular stress corrosion cracking.
10 What we saw -- and the concern that we continue to have --
11 is that the analysis in determining crack growth rate, some
12 of the datapoints are thrown out, and I am wondering, you
13 know, where in the attributes program you have -- where in
14 fact an analysis process can be raised and brought into
15 question in terms of addressing crack growth rate mechanisms
16 or basically the process by which data is reviewed and
17 outlying datapoints are thrown out and whether or not
18 there's somewhere in your own review process that can bring
19 in questions as to how data is being subjected to arbitrary
20 and capricious treatment.

21 MR. GRIMES: That is a good comment, because as I
22 reflect on that question, it would be hard for me to say
23 that there are general program attributes about data
24 treatment techniques. Almost all of the -- each of the
25 areas seems to have unique descriptions of data treatment
techniques, but I noticed that Barry Elliot wanted to
comment on that question?

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 MR. ELLIOT: I am not reviewing your data but your
question is really a Part 50 question. We are reviewing

1 intergranular stress corrosion cracking growth rate as part
2 of the current licensing basis for the plants. Your
3 question should be addressed under those programs.

4 MR. GUNTER: Well, again, if in fact we have
5 situations where the current treatment practice is of issue,
6 again it is our concern that there is no opportunity here
7 for industry and regulator to reinforce public confidence
8 and in fact there is a deliberate effort to bound some of
9 these issues, particularly with this particular issue of
10 intergranular stress corrosion cracking.

11 I think it is a paramount issue for license
12 renewal that the industry and the regulator have a better
13 understanding of crack growth rate mechanisms, and if in
14 fact what we have got here is an opportunity to gain public
15 confidence I think this is one issue that you could do it
16 on.

17 MR. GRIMES: I appreciate the comment, Paul, and
18 when we get into discussing particular programs I will try
19 to make sure that we get feedback and comments in terms of
20 the extent to which each of those programs has a data
21 gathering and analysis technique. Some techniques used are
22 bounding. Others use statistical models. I think each
23 program has -- should have something to say about data
24 treatment and how it is reflected in the program.

25 MR. GUNTER: But is there somewhere in here that I
am missing where something like this could be raised under
your 10-point program? Is data treatment --

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DR. LEE: I think it is under Item 5 where it
talks about monitoring and trending, so how frequently you

1 inspect it depends on how fast the crack grows. You want to
2 catch it before the crack grows into a critical size.

3 MR. GRIMES: But I would also say that I think
4 depending -- there's some other programs where you see data
5 treatment reflected in the acceptance criteria or the
6 detection methods. You know, I think there are elements of
7 it that find their way in there. There's several of these
8 attributes depending on the particular program, but we
9 should keep that in mind as we go through and talk about the
10 particular programs.

11 Are there other comments or questions about Dr.
12 Lee's explanation of GALL, the SRP and the Reg Guide, and
13 our expectations for 95-10?

14 [No response.]

15 MR. GRIMES: No other questions? Everybody
16 understands perfectly how we are going to proceed?
17 Question?

18 MR. STENGER: Dan Stenger with Hopkins & Sutter.
19 Is it the Staff's view that all 10 of these
20 attributes would have to be present for an existing program
21 to be adequate for license renewal?

22 MR. GRIMES: Our experience thus far has been that
23 we find these attributes in all programs, but sometimes they
24 cross-cut.

25 For example, the administrative controls for some
programs are common amongst programs, but the simple answer
is we tend to believe that all 10 of these elements will be
present in an effective aging management program, so if we
find any examples of programs that don't have particular

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1 elements, we would like you to point those out.

2 DR. LEE: I guess what I want to add is certain
3 programs by themselves may not have all ten elements. For
4 example, the inspection program, okay? You are inspecting
5 for flaws. That would not have the Element Number 2, the
6 preventive action, but what we find is usually you don't
7 just have an inspection program by its lonesome. You also
8 have some mitigation activity like a water chemistry program
9 in tandem with your inspection, so inspection acts as a
10 confirmation that your mitigation activities are adequate,
11 so that by the time you put all of this program together
12 they tend to have all these 10 elements.

13 MR. GRIMES: Yes, that is a good point.

14 We need to keep in mind we tend to talk about
15 these programs as if they are stand-alone or silos and
16 there's synergy between different programs or even the
17 operating experience feedback.

18 I know that is a rather sensitive subject for
19 licensees in terms of what the expectation is about how far
20 they are going to review operating experience in order to
21 demonstrate effective aging management programs.

22 To the extent they have access to that experience,
23 or they have means to gather experience, so these -- some
24 programs are intertwined, and part of the packaging of
25 license renewal, part of the perception of license renewal
is the extent to which we have tried to pull it apart and
categorize it for the purpose of this dialogue.

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It's not always abundantly obvious that individual
programs have reliance on other programs, and that also

1 might be a challenge for GALL to explain how these programs
2 fit together.

3 Are there any other comments or questions for Dr.
4 Lee?

5 MR. WALTERS: Yes.

6 MR. GRIMES: Mr. Walters?

7 MR. WALTERS: Doug Walters from NEI. On your
8 slide that had the column headings -- and we've looked at
9 Chapters 7 and 8, I believe, or 6 and 8. The column that
10 says references typically identifies either a NUREG, maybe
11 an IEEE standard, but some document that's out in the public
12 domain.

13 I guess, looking at that column, my understanding
14 is that that was where the author of the chapter looked in
15 order to determine whether there was an existing program or
16 maybe what the aging effects were or whatever.

17 My question is, how did you use the experience
18 from the review of Calvert and Oconee? Specifically, your
19 SER obviously documents your review of these programs. How
20 was that staff review integrated or used in the preparation
21 of GALL?

22 DR. LEE: Actually, for the GALL, we did not
23 reference the Calvert Cliffs and Oconee SER. We make a
24 conscious effort not to do that, but say, Calvert Cliffs or
25 Oconee have proposed a program to manage aging effects, you
will see it reflected in GALL, but you will not see it
listed in the reference.

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Say if they used ASTM standard to manage certain
free oil, okay, or the free oil tank, you will see the

1 standard under the reference. But you would not say Calvert
2 Cliffs or Ocone, actually use that.

3 MR. GRIMES: And actually, I'll ask if there are
4 any members of the staff who contributed to the review,
5 whether or not we identified other references that should be
6 included in GALL?

7 Barry?

8 MR. ELLIOT: Barry Elliot. When we reviewed the
9 data, the review is the initial GALL report, and that's one
10 of the things we did. We added NUREGs or Generic Letters or
11 anything that the NRC staff recognized from its review of
12 Calvert Cliffs and Ocone should be added to GALL as
13 references.

14 We did that as part of our initial review of GALL.

15 MR. GRIMES: We would also like to solicit
16 feedback from the -- as Dave mentioned, there may be other
17 references, UCS reports, Critical Mass reports that might
18 apply to particular aging effects that we should consider.

19 Mr. Colaianni, you had a comment or a question?

20 MR. COLAIANNI: Yes. This is actually related to
21 his -- I did notice some of the categories in the
22 references, were not information notices for Generic Letters
23 referenced, like in the cables area that I thought would
24 have been. So that should be done consistently throughout,
25 I agree.

MR. GRIMES: Yes. As speakers come up, if you'd
identify yourself and your affiliation, to keep in mind that
AN the Reporter back here is trying to keep track of all of
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LE you.

1 MR. COLAIANNI: Right, this was Paul Colaianni,
2 Duke Power.

3 MR. RAY: This is Neal Ray from INEL. I have a
4 question that probably everybody knows except me, the
5 answer. However, referring to NPA report that we worked and
6 several other National Labs work on it, and there are
7 several recommendations, first question:

8 Are all of those being addressed in the GALL
9 report, all of the issues raised and so on and so forth?
10 Are they addressed in the GALL report?

11 MR. VORA: My name is Jay Vora from Office of
12 Research. The Nuclear Plant Aging Research Program which we
13 referenced, actually consisted of some 30 components and 22
14 systems.

15 And many of these components were actually the
16 active components like MOVs, the circuit breakers. But
17 those portions of the NPA program which actually were
18 relevant to the long passive component and structures for
19 LERs and BWRs, and Dr. Vik Shah provided some of the input.
20 So we are actually focused only on the long-lead passive
21 components and structures from the NPA.

22 MR. GRIMES: I'd also like to add to that. As
23 we've looked back, we've got material from the Nuclear Plant
24 Aging Research Program that goes back to the early 80s. And
25 there are these other references, and we may have assumed
that some of the recommendations from the past have been
overtaken by events or are no longer applicable.

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So, to the extent that any of you are familiar
with particular material that's been referenced or

1 particular material in the past, if you feel like that
2 material is still relevant and hasn't been addressed, then
3 we'd like that feedback as well.

4 MR. RAY: And the second part of the question is
5 related to it. After NPA and continuous, there are
6 continuous and maybe new findings all around the world in
7 terms of cracking or leakage where we never expected it.

8 Are those going to be addressed through GALL?

9 MR. VORA: Actually we have summarized actually
10 the work that we have done in the Office of Research on the
11 primary system components and structures, which includes the
12 vessels, the steam generators, the piping, the ND.

13 And we have compiled a five-year summary report
14 from 1994 to 1999, which is after NPA, and those reports are
15 being reviewed and we are going to see if there is any
16 relevant information which could be utilized for an
17 effective managing of aging during the renewed license
18 period.

19 So, yes, the answer to your question is that the
20 last five years of work is being reviewed and will be
21 factored appropriately in the GALL report.

22 MR. GRIMES: Yes, I'd like to add to that. On the
23 17th of November, there was an Office of Research -- held a
24 public meeting on fatigue in order to try and summarize
25 where we are with the evolution of data related to fatigue
and the environmental effects. And that's a rather testy
area for some folks, for those that work in it on a daily
basis. I imagine they're very comfortable with it.

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But it gets back to Dave's comment about there's a

1 perception that we're shooting at a moving target in some
2 cases, and for some programs, that may be true; that the
3 program attributes are actually evolving as we're trying to
4 establish a standard.

5 And to that extent, it raises doubt in some
6 people's minds about whether or not, you know, how can
7 license renewal proceed when you don't have answers to these
8 questions?

9 But that gets back to the fundamental premise
10 about the regulatory process deals with new information on a
11 daily basis. Sam mentioned that every morning, you know,
12 there's a standup where we reflect on the experience from
13 the previous day, and we develop generic communications, and
14 we change requirements.

15 And there are processes for dealing with those
16 things, and we need to have a focused way, a coherent way to
17 explain how those processes fit together, and how
18 evolutionary activities are being handled in the context of
19 decision criteria for the acceptability of these programs.

20 Are there other comments or questions? GALL as an
21 initial attempt by us to catalog what we believe are
22 appropriate expectations for aging management programs.

23 There are places where our initial attempt may
24 have concluded that a program is adequate and does not need
25 to be augmented. And we may be convinced otherwise by the
comments.

AN There may be areas where we've concluded that
N further evaluation is necessary for particular programs.
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LE We're open to suggestions on whether or not we can

1 be convinced otherwise to that extent, too.

2 We don't yet know how GALL is going to fit into
3 the standard review plan or the application format or the
4 decision process. But we know that if we can get this
5 catalog put together, that things should certainly be
6 clearer in terms of what the expectations are that we're
7 trying to work from.

8 Any other comments or questions about the overall
9 plan? MR. LOCHBAUM: I have one. Somewhere in this
10 stack of material you sent me, and I can't recall which
11 specific document it was, but there was a proposed appeal
12 process, if a stakeholder didn't agree with the staff on
13 some aging issue or some license renewal issue.

14 MR. GRIMES: Yes.

15 MR. LOCHBAUM: There was like a three- or
16 four-tiered appeal process. I was wondering, is that the
17 process now, or is that something that's foreseen down the
18 road?

19 MR. GRIMES: That is the process. It is a
20 reflection of what we believe is the process that we use
21 right now. We were simply trying to articulate it.

22 It applies for generic renewal issues because
23 there basically needs to be an explanation about how
24 external interests can deal with generic renewal issues.

25 The NEI working group was looking for an
explanation about how we were going to proceed to address
generic renewal issues.

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MR. LOCHBAUM: I guess if it's the current case,
then I would be concerned, because when the public comes to

1 this Agency with concerns, either through the 2.206 or the
2 allegation process, you get no appeals, for nobody.

3 And when the industry comes in, you've got three
4 or four layers of appeals, and it just seems blatantly
5 unfair.

6 MR. GRIMES: Well, one of the reasons why we've
7 been continuing to work on that appeal process is because we
8 did take the questions about, well, how does that work with
9 2.206 or these other processes, and we're trying to see.
10 We're looking for that coherence piece.

11 So that's a good point; we need to consider how
12 license renewal works within the framework, and make sure
13 that we're being consistent.

14 Other comments or questions?

15 [No response.]

16 MR. GRIMES: We're almost a half hour ahead of
17 schedule. Under the circumstances, we'll take a break and
18 we'll let you go off and think about this for a few minutes.
19 Maybe you can think of some more questions when we
20 reconvene.

21 As I mentioned before, you can go to the cafeteria
22 by going through the elevator to the first floor of 2 White
23 Flint. And when we're ready to reconvene, we've got our
24 school bell here, and we'll ring that in the atrium to get
25 you all to return. We'll reconvene at a quarter after.

[Recess.]

MR. GRIMES: We are ready to reconvene now. I was
AN reminded during the break that I should emphasize that the
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RI Staff is in a receive mode today. We're going to gather
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1 these comments and the feedback that we get from you. We're
2 not here to debate these issues.

3 We're going to take the comments and consider them
4 and then try and come up with a plan on how we're going to
5 respond to the questions and comments that we get from you
6 today.

7 But we want to encourage your dialogue, we want to
8 encourage your comments and feedback so that we can plan a
9 course on how to proceed.

10 I mentioned before that I want to apologize for
11 the uncertainty, but we really need the feedback from you in
12 order to have a well-informed plan. And we'll expect to
13 share the feedback with you and what we're going to do about
14 it, after we've had a chance to digest your comments.

15 Mr. Gunter, you had a comment or a question.

16 MR. GUNTER: Just is the GALL report going to go
17 down to the PDR, and, if so, when?

18 MR. GRIMES: The GALL report will go down to the
19 PDR in the next few days. We're going to distribute copies
20 of it today, and then we'll send one promptly to the Public
21 Document Room.

22 As I mentioned before, it was our intent to
23 distribute the copies afterwards because it's a rather
24 voluminous thing and we didn't want paper littering the
25 floor while you're trying to dialogue with us.

Now that you've had a chance to think about the
presentation that Dr. Lee made, are there any other comments
AN or questions about GALL and the SRP or the REG Guide?
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LE Question from the floor, could you go to the microphone and

1 identify yourself, please?

2 MR. GURICAN: Greg Gurican, TMI. I'm wondering if
3 there was any special consideration in the development of
4 the SRP and/or the GALL report for non-SRP licensees, and
5 also licensees who are not ISTS holders in the sense that to
6 address David Lochbaum's concern regarding surveillance and
7 surveillance frequencies, recognizing that these types of
8 licensees have a different set of tech specs and are
9 licensed to a different set of criteria, other than the
10 standard review plan, has there been any special
11 consideration or any annotations within the development of
12 either document to address these types of licensees?

13 MR. GRIMES: Sam, do you want to take a shot at
14 that?

15 DR. LEE: I don't think this first cut of GALL
16 makes that distinction. But if there is further comment,
17 we'll consider that.

18 MR. GRIMES: I should mention that we developed a
19 standard review plan for license renewal as a template,
20 without any specific thought in mind in terms of the
21 licensing basis for particular plants.

22 Other comments or questions?

23 [No response.]

24 MR. GRIMES: The next item on the agenda is to
25 discuss examples of regulated programs. And our facilitator
for this part of the session is going to be Barry Elliot.
Barry, would you like to begin?

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MR. ELLIOT: My name is Barry Elliot, and I'm with
NRR, the Materials and Chemical Engineering Branch. My area

1 of review is the reactor vessel, the reactor vessel
2 internals, the reactor coolant system.

3 CFR Part 54 requires and integrated assessment of
4 the plant, and an integrated plant assessment for license
5 renewal requires an evaluation of the aging effects, and the
6 management program for those aging effects.

7 GALL will provide a list of aging effects, and
8 aging management programs that the staff considers
9 applicable for the components within the report.

10 Many of the aging management programs are existing
11 programs that result from existing regulation. Regulated
12 programs are programs required by regulation or subject to
13 other regulatory requirements such as technical
14 specifications.

15 Regulations and specifications that result in
16 regulated programs are listed in the overhead on the screen
17 in front of the room.

18 Some of these programs are adequate as currently
19 instituted; others required augmented or modifications to be
20 effective during the license renewal term.

21 I will discuss programs associated with in-service
22 inspection, Appendices G and H, 10 CFR Part 50, and the
23 Pressurized Thermal Shock Rule.

24 The two effects managed by ISI, reactor vessel,
25 Reactor Vessel Integrity Program, and PTS are cracking and
neutron irradiation embrittlement.

AN The programs associated with Appendices G and H,
N 10 CFR Part 50, and the PTS Rule are used to management,
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LE embrittlement of the reactor vessel.

1 Appendix G and the PTS Rule require the reactor
2 vessel belt line materials to be evaluated through
3 embrittlement screening criteria.

4 These rules contain embrittlement screening
5 criteria, and also allow operation above the screening
6 criteria if plant-specific analysis demonstrates adequate
7 margins against fracture.

8 Each licensee evaluated its reactor vessels to the
9 screening criteria, to the end of its current 40-year term,
10 and applicants for license renewal will be required to
11 evaluate their reactor vessels against this screening
12 criteria for 60 years of operation.

13 GALL will identify which components need
14 evaluation through the criteria in Appendix G and the PTS
15 Rule.

16 Appendix H, 10 CFR Part 50 requires each licensee
17 to monitor neutron irradiation embrittlement.

18 The Materials Surveillance Program described in
19 Appendix G is for 40 years. Since applicants for a license
20 renewal will need to demonstrate that their materials
21 surveillance program will be adequate for 60 years, the
22 staff has developed attributes and guidelines for the
23 60-year program that are needed to update the existing
24 program.

25 These attributes and guideline are described
within GALL.

 10 CFR 50.55a requires that reactor vessel,
AN reactor vessel internals, and the reactor coolant system to
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LE be inspected to the ASME Code.

1 Many of -- as far as the reactor vessel is
2 concerned, the ISI programs have been determined to be
3 adequate by the staff, for all reactor vessel materials
4 except for Alloy 600.

5 GALL will identify which components are adequately
6 managed by the existing ISI program, and which programs need
7 modification during their license renewal term.

8 The reason that we talked earlier -- it was
9 discussed about why could programs be considered adequate
10 when they're so much different? In the case of the reactor
11 vessel, the internal environment is managed by a primary
12 water control system, and the materials meet minimum
13 requirements, therefore, all materials except for Alloy 600,
14 the staff determined that the existing program was adequate.

15
16 As far as Alloy 600 is concerned, primary water
17 stress corrosion cracking has been observed in Alloy 600 in
18 the welds.

19 And additional inspections are necessary. The
20 industry has developed a program to manage the aging effects
21 to Alloy-600. Staff has reviewed those, that program, and
22 plants that are applying for license renewal will have to
23 manage that program through the license renewal term.

24 To summarize, I have discussed how, if you
25 regulate a program, it should be implemented during the
license renewal term, and how they will be described in GALL
to manage aging effects of cracking and neutron

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N embrittlement during the license renewal term. At this time
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LE I would like to get your comments on existing regulatory

1 programs.

2 MR. GRIMES: Mr. Walters.

3 MR. WALTERS: Excuse me. Doug Walters, NEI. Just
4 two questions. You indicated that in some cases ISI may not
5 be adequate and you are going to identify in GALL the I
6 guess enhancement that needs to be made.

7 MR. ELLIOT: We may not have mentioned it. That
8 will be plant-specific or something an existing, like
9 Generic Letter, or whatever.

10 MR. WALTERS: Okay. What standard are you
11 applying to determine that ISI is not adequate?

12 MR. ELLIOT: What we are looking for is based upon
13 the history of the materials in the environment. Is the
14 existing program -- will it detect the aging effects that
15 are considered plausible?

16 MR. WALTERS: And that is not the standard that
17 applies today, is that what we are saying?

18 MR. ELLIOT: I think a similar standard is used
19 today, but it wasn't as clearly defined in the previous
20 review process.

21 MR. WALTERS: My second question is I believe you
22 said that Appendix H is only good for 40 years. I am not --
23 I'm sorry. Is that correct?

24 MR. ELLIOT: Yes.

25 MR. WALTERS: I am not familiar with that, but are
you saying that 10 CFR Part 50, Appendix H expires after
forty years of a plant's operating life, or are you saying
AN that it is an analysis that is done under Appendix H that is
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LE only done for 40 years?

1 MR. ELLIOT: Let me explain that. Appendix H
2 applies for 40 years and 60 years. The program -- the goal
3 licensees have to meet, monitor radiation embrittlement for
4 40 years and 60 years. They have to have a surveillance
5 program that monitors radiation embrittlement. The
6 regulatory, specific regulatory requirement about when to
7 take out capsules is based on a 40 year program. That
8 doesn't mean because you go on for 60 years, you could use
9 that same 40 year program. You may have to modify that
10 program to 60 years.

11 MR. GRIMES: I think there is an important
12 distinction to be made when we look, when we talk about
13 regulatory requirements. To the extent that the way by
14 which regulatory requirements are being fulfilled in the
15 existing license, Barry has pointed out an example, in this
16 case the capsule withdrawal sequence and evaluation of PTS.
17 They have to be modified to account for an expectation that
18 a plant would operate for 60 years, and that is a fairly
19 simple modification. But there may be elements of the
20 inservice inspection program that we now discover need to
21 apply where they didn't before, or need to reconsider
22 whether or not all of the applicable aging effects are
23 captured by the inspection techniques, which are
24 modifications as well.

25 DR. LEE: I guess -- this is Sam Lee from License
Renewal Branch. One of the things I wanted to add is that
the way we have done the license renewal review is that we
AN identified the components, the aging effects, and then we
N
RI try and look for a program to manage that aging effect or
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1 that component. Okay. So some examples that come up here,
2 for example, is like small bore piping on the reactor
3 coolant system, so it has small bore piping. Cracking is a
4 potential aging effect. And then when we try and look for a
5 program, okay, we cannot point to -- which is the inservice
6 inspection program, and say, gee, this is a program that
7 manages cracking or this small bore piping, and that is
8 where we identify a potential delta or area for
9 augmentation. Okay. Because we stop on a component aging
10 effect and look for a program, rather than come up and say,
11 these are ISI program, it is adequate by definition. Okay,
12 we didn't do that. That is how we identified holes, so to
13 speak.

14 MR. GRIMES: Does anybody have any examples of
15 other regulatory required programs that either you think
16 adequately manage aging effects now or that you think need
17 to be augmented somehow to manage aging effects for
18 particular components.

19 MR. RAY: Talking about reactor vessel, I believe
20 there are several plants, if not quite significant among the
21 plants, based on their current surveillance capsule program,
22 if they don't change their field significantly, for
23 management I believe, they should be able to extend it to 60
24 years without making any significant change, or no change at
25 all, and should be able to qualify or disqualify various
screening criteria.

AN
N that?
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MR. GRIMES: Barry, do you want to comment on

MR. ELLIOT: That is true. I mean the attributes

1 and the guidelines we were putting forward in GALL for the
2 surveillance program, there are plants that have existing
3 programs now that could meet those requirements, and they
4 all wouldn't have to make any change. Some will have to
5 make changes. I could go into plant specifics, but I would
6 rather not. And that is why on the GALL, the surveillance
7 program would be a plant-specific review, because the nature
8 of it is that every one is a little bit different, the
9 embrittlement is a little bit different, so the program is a
10 little bit different.

11 As far as PTS, pressurized thermal shock, NRC has
12 put a reactor vessel integrity database which is a
13 compilation of the entire reactor vessel material database
14 for all the reactors in the United States, and it has all
15 the material properties for the 40 year license in it. Any
16 licensee could take that database, pick out its data that we
17 have compiled and update its PTS evaluation by updating the
18 neutron fluence and finish the evaluation using the reactor
19 vessel integrity database of the NRC.

20 MR. RAY: Well, I think there is a caveat to your
21 statement, and that is I know the document you are referring
22 to, however, based on the latest surveillance capsule, if
23 they release any more or issue, or take out any more
24 surveillance capsule and pass the chemical data or so, it is
25 possible that data might be changed. And in that case, as
part of the regulation, they have to reevaluate their PTS,
and they may harm themselves or benefit themselves.

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MR. ELLIOT: That is true. Any time -- the review
of reactor vessels, a review of inservice inspection

1 programs, a review of all these programs are ongoing. And
2 if there are changes that occur as a result of new data,
3 then the plants are going to have to implement that new
4 data. Part of the reactor vessel integrity database is
5 chemistry. If the chemistry becomes available that affects
6 a particular plant, then those plants would have to
7 incorporate that set of data into their license renewal
8 application.

9 They have to -- by the way, they have to
10 incorporate it into the current review, as part of their 40
11 year PTS evaluation. And the same thing goes with the
12 surveillance data. When plants take out surveillance data
13 from their capsules, they are required, under the current
14 regulation, to evaluate their vessels relative to that
15 surveillance data. And, of course, they have to do it for
16 license renewal also.

17 MR. GRIMES: I think an important point that we
18 want to stress with respect to any of these programs, but
19 particularly for the regulated programs, is that license
20 renewal is a process concept, that license renewal isn't
21 going to begin until, for the first two applicants, about
22 2013 or 2014, and we are trying to think forward in terms of
23 how the processes by which data is gathered, evaluated and
24 then acted on is going to be factored into the license
25 basis. And when we talk about augmenting programs for
license renewal, we are talking about what is our
expectation about how the program is going to be modified to
AN behave differently from the period, from the current license
N RI term into the period of extended operation.
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1 And there is still an expectation, getting back to
2 Dave's earlier comment, there is an expectation that there
3 is an enforcement program that coexists with the license
4 that is going to take action if you, you know, don't fulfill
5 the license commitments. And in this case, it would be
6 commitments associated with a renewed license and
7 withdrawing capsules and evaluating data and adjusting
8 operating parameters accordingly.

9 Are there any other comments or questions about
10 the reactor vessel program in particular, before we try and
11 move on to some other programs? A question over here.
12 Could you go to a microphone, please?

13 MR. SANWARWALLA: My name is Mansoor Sanwarwalla
14 from Sargent and Lundy. The question I have was for Barry.

15 Barry, when you go back and look at the reactor
16 integrity, reactor vessel integrity, are you even looking at
17 the plant unique operating experience and how they write up
18 their maintenance and surveillance requirements? Or are you
19 going to go back and compare it against GALL requirements,
20 or are you going to do a combination of both?

21 MR. ELLIOT: Well, in the GALL, GALL will look at
22 what are the aging effects for the reactor vessel. And
23 based on staff experience, we will identify what those aging
24 effects are, and then we will say how we think they should
25 be managed. And if they -- and it will be described in the
report, how it should be managed.

AN I can't go through the specifics of every single
N component, but primary water control is a very important
RI issue. The fracture toughness of materials is an important
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1 issue, you know, things like that. The inservice inspection
2 program is an important issue, and those have to be -- they
3 will be identified, how they affect each component and what
4 our decision is to what is an adequate existing program and
5 where further augmented or modifications are necessary.

6 MR. GRIMES: But getting back to the particular
7 question about how you consider plant-specific operating
8 experience, when we started the reviews of the first two
9 applications, the guidance that we gave to the staff was, if
10 you know of particular operating experience that is
11 applicable to a particular aging effect for this plant, then
12 you should reflect it in the review. And so if there is
13 unique plant operating experience that would cause the staff
14 to question whether or not the program is demonstrably
15 effective, then they were encouraged to probe those areas,
16 irrespective of whether it was the surveillance program or
17 -- I am sorry, the vessel surveillance program or other
18 programs. As a general rule, one of the areas of concern
19 amongst the applicants is to what extent is the staff going
20 to pursue operating experience that goes, you know, to far
21 afield, or go on fishing expeditions for experience, where
22 there isn't any experience to refer to. So that is another
23 aspect of operating experience as well.

24 Other comments or questions about vessel
25 surveillance in particular? Paul.

MR. GUNTER: Yeah, Paul Gunter, NIRS. As I
understand it, you are going to be extending, as you go for
AN this 20 year extension, it is going to put the plant in a
N RI situation where they are going to have to extend the
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1 surveillance intervals on capsules. As you pull specimens,
2 you have a limited number of specimens that you are going to
3 be looking at. And I am wondering how GALL will take into
4 consideration, or if it is going to be built in, in terms of
5 as you extend your surveillance intervals on the capsule
6 inspections, how that will relate to tracking the age
7 mechanism, the degradation mechanism. Am I making myself
8 clear?

9 Okay. So you have got -- how many samples do you
10 have in a vessel, typically, in a 1,000 megawatt PWR?

11 MR. ELLIOT: Usually there are six capsules per
12 vessel.

13 MR. GUNTER: Okay. Six capsules. So what is your
14 current interval under a 40 year license?

15 MR. ELLIOT: It is according to ASGM standard,
16 and, usually, there is like four capsules withdrawn and two
17 are held back for other applications.

18 MR. GUNTER: What is the interval is what I am
19 trying to figure out?

20 MR. ELLIOT: The interval varies from plant to
21 plant. I mean it depends on the neutron fluence, it depends
22 upon -- it is a matter of embrittlement expected over the
23 life of the plant. You take the first capsule out in the
24 first five years, the next capsule out in the next five
25 years, then you wait another 15 years, and then the fourth
capsule might come out in the 40th year.

MR. GUNTER: So in any event --

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MR. ELLIOT: There is no set amount, that depends
on the amount of embrittlement and the neutron fluence and

1 lead factors and a whole lot of other things.

2 MR. GUNTER: So there are a number of variables.

3 MR. ELLIOT: Yes.

4 MR. GUNTER: That, would seem to me, to contribute
5 to an uncertainty value.

6 MR. ELLIOT: It doesn't increase the uncertainty
7 value, it just means that you have a broad range of possible
8 surveillance capsule withdrawal programs.

9 MR. GUNTER: Okay. So if you go to a 20 year
10 extension, then that will, in fact, increase those
11 surveillance -- that will change that, that will introduce
12 yet another variable in terms of how you are evaluating data
13 when you are pulling capsules.

14 MR. ELLIOT: It will change the surveillance
15 schedule, definitely.

16 MR. GUNTER: Can you give me a ballpark idea of
17 how long that surveillance interval would be extended,
18 generally speaking? Are there any -- I mean I understand
19 you have got to know your variables here, but --

20 MR. ELLIOT: We didn't look at it that way. We
21 looked at it that there are certain guidelines and important
22 features that the surveillance program must have. It must
23 have fluence, it must capsules withdrawals at sufficient
24 fluence to bound the 60 year license. It must have -- and
25 it must be withdrawn during the license renewal term, and if
it is not, then the plant must set up operating conditions
for each plant that are based on those surveillance program

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-- the surveillance capsule withdrawals that were done
before the 60 year started, that the 20 year extension

1 started.

2 These are the type of things where guidelines --
3 and there are no specifics as to how to go about that. That
4 is going to be up to each individual applicant to decide how
5 they are going to meet these guidelines and attributes.

6 MR. GUNTER: Well, I guess my concern is, is that
7 just in terms of the degree of uncertainty, or lack of
8 confidence in the current embrittlement rate, if, in fact,
9 you are adding greater intervals, increasing those
10 intervals, if, in fact, we are not increasing uncertainty or
11 lack of confidence in the embrittlement rate, and if GALL is
12 going to -- how GALL is going to address that.

13 MR. ELLIOT: That is a question for, as far as --
14 I don't think GALL is going to address that. That is a
15 question of how much do we know about the embrittlement rate
16 of reactor vessels in the United States. And that is the
17 function of how many surveillance capsules are withdrawn.

18 MR. GUNTER: Right.

19 MR. ELLIOT: And when we originally started Reg.
20 Guide 1.99 Rev. 1, there were probably a couple of hundred
21 data points, now there are thousands. And because we have a
22 very large fleet of reactor vessels in the United States,
23 and they all -- the PWRs, in particular, operate in very,
24 very similar environments, so as we periodically, we gather
25 all the data together, and then update our embrittlement
rate, I can't see how changing a withdrawal time from 20
years to 25 years is going to change thousands of data
points and the embrittlement rate that we project.

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MR. GRIMES: But certainly, the concern that you

1 have expressed about the confidence and the data analysis
2 and scatter and uncertainty is something that needs, you
3 know, we consider to be factored into the program by which,
4 you know, capsules are evaluated.

5 Dr. Nickell, you have a comment.

6 MR. NICKELL: Yes. Thank you. You are dealing
7 here with programs, regulated programs, but I am asking a
8 question about whether or not -- whether GALL will address
9 the issue of calculations done by the applicant to
10 demonstrate that materials beyond the conventional beltline,
11 that might be now considered to be part of the evaluation
12 process. But if they are not limiting materials, do you
13 think GALL will, in fact, have guidelines to help the
14 applicant make a decision about how to do such calculations
15 to show that those additional materials are, in fact, not
16 limiting?

17 MR. GRIMES: While Barry is thinking about whether
18 or not he clearly understands that question --

19 MR. ELLIOT: I understand.

20 MR. GRIMES: Would you identify yourself for the
21 reporter?

22 MR. NICKELL: Oh, yes. Bob Nickell, I am an EPRI
23 consultant.

24 MR. ELLIOT: In the GALL report, we identified a
25 neutron fluence as a minimum neutron fluence, and any
component, any material that reaches that minimum
requirement would have to be evaluated for PTS and Appendix
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MR. NICKELL: But I think the criteria are not

1 contained in GALL.

2 MR. ELLIOT: The criteria will be GALL, about what
3 the criteria for the minimum fluence has to be before you
4 have to do an evaluation.

5 MR. GRIMES: Let me make sure I understand the
6 question. Your question really got to scope of components
7 that need to be evaluated for aging management, whether or
8 not they are --

9 MR. NICKELL: Materials that would have to be
10 included in the surveillance program which were not included
11 in the original 40 years.

12 MR. GRIMES: Okay. Surveillance program.

13 MR. NICKELL: And for which the applicant has
14 made, or will make a demonstration that those materials need
15 not be included because they are not limiting materials.

16 MR. GRIMES: But I think the critical element here
17 is the extent to which the materials are relied upon to
18 perform some function or are related to the function of the
19 vessel or internals, correct?

20 MR. NICKELL: Right.

21 MR. GRIMES: I think the answer to that is that
22 gets into the area where GALL might be too -- if it is too
23 general, then the guidelines aren't going to assist plants
24 that may have unique licensing bases. And so each plant is
25 going to have to evaluate which components perform which
functions related to the licensing basis, I think. And
David mentioned before the concern about how the design is
controlled over time and whether or not the design basis is
clearly understood.

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1 Dave, do you have a comment or a question?

2 MR. LOCHBAUM: It is related to a process
3 question. I noticed in reviewing the materials that there
4 is some debate or controversy about any changes that are
5 made to the existing programs or new programs that are
6 developed for aging, how are they captured within the
7 licensing basis. The staff has indicated that the FSAR
8 might be the best repository for that information. The
9 industry has suggested that the existing license commitment
10 tracking systems might be the more appropriate vehicle. I
11 guess if we are voting on that, we would vote on the FSAR,
12 and following 50.71(e), that seemed to be a good time to
13 follow that rule.

14 MR. GRIMES: That is a good comment. That is also
15 an area where we have been asked to provide some additional
16 guidance, and I think that scoping is an area that, you
17 know, we have been treating separately. It has a
18 relationship here, but to the extent that we are going to
19 try and develop guidance, and encourage, you know, full
20 implementation of the 50.71(e) guidance to make sure that
21 the FSAR is the repository of the critical safety functions
22 and compliance matters, but we are still going to struggle
23 through, you know, the gray areas and the fuzzy areas where
24 the licensing basis might not be perfectly clear. And in
25 that sense, we look to the licensing basis of record, and
where fuzzy, try and clarify it. But that is an area where
we know we need to develop some more guidance, too.

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But at this point the program guidance in GALL is
going to concentrate on what is the program for managing

1 aging effect, and you are still going to have to struggle
2 with, well, what does that program apply to?

3 Other comments or questions? You, sir?

4 MR. SO: My name is Domenic So, from AEP. Earlier
5 we mentioned about the inservice inspection program and we
6 looked at Attribute Number 4, and mentioned the detection of
7 aging effects are not being taken care of by some of these
8 traditional regulator programs.

9 My question is what direction or what additional
10 augmented examples do we have in mind? Will the GALL report
11 mention further -- or give further guidance as far as what
12 components we are going to look at?

13 DR. LEE: The purpose of doing GALL is to identify
14 those components and what aging effects need to be managed,
15 okay? -- and GALL just spells that out. In some places GALL
16 may actually suggest what needs to be done, but in most
17 cases it just says "needs further evaluation" for certain
18 particular components in aging effects.

19 MR. SO: I assume your response also is applicable
20 to one of the examples up there on the slide that is
21 referring to the containment inservice inspection as well.

22 DR. LEE: That is correct, for containment, yes.

23 MR. SO: Fuel containments do have insulation so
24 that you may not look in and beyond, underneath. There are
25 certain components there that traditionally are considered
as not accessible.

AN DR. LEE: Yes, we understand about the
N inaccessible areas issue. We understand about that. I
RI think GALL addresses that.
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1 MR. SO: Okay, thanks.

2 MR. GRIMES: And we would encourage you to give us
3 feedback on GALL where you think that it is not sufficiently
4 clear in terms of where there should be any baseline
5 inspections or relations in programs. We rely on
6 inspections in accessible areas to provide an indication of
7 whether or not there is a problem occurring in inaccessible
8 areas, and those are program elements that were looking for
9 feedback as well.

10 MR. BAGCHI: My name is Goutam Bagchi, and I am
11 just seeking some explanation as to what you had in mind for
12 inaccessible areas. Obviously there are some areas that
13 have insulation. Are you suggesting that perhaps once in
14 awhile, long intervals, some of the insulation should be
15 removed and looked at?

16 MR. SO: I recall we have had some previous
17 discussion as well on that subject. It seems like there's
18 some suggestions as far as doing the sampling versus total
19 removal.

20 MR. BAGCHI: I would assume that your suggestion
21 is something like that, and from the records we'll pick it
22 up and see how it could be incorporated into the GALL.

23 MR. SO: Thanks.

24 MR. BAGCHI: As lessons learned. Thank you.

25 MR. GRIMES: A comment from the audience?

MR. DYLE: Yes, I guess a question just to help
with the review of the GALL report. Will it be obvious --
AN I'm sorry, my name is Robin Dyle with Inservice Engineering.
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LE Would it be obvious from a review of the GALL what

1 editions of the code were used to make the assessments of
2 the adequacy of current inservice inspection programs and to
3 what degree did augmented programs that are currently
4 required by regulation get factored into that assessment,
5 such as the current expedited implementation of Appendix A
6 to further enhance the adequacy of the inservice inspections
7 that are ongoing? Is it obvious there where that is?

8 I realize this is a moving target because the
9 regulation changes in relation to ISI, but will it be clear
10 where we start with the review and what the comments ought
11 to be?

12 It would be valuable to the ASME committees that
13 might work on trying to resolve this.

14 DR. LEE: Yes, I think GALL identifies for ISIs
15 the '89 edition of the code and then for the containment
16 inspection I think it is the '92 edition.

17 MR. DYLE: So you are now eight years behind what
18 is currently in the regulation or seven years behind, the
19 '96 addenda being approved?

20 MR. GRIMES: My reaction to that is it might be,
21 in which case we would hope you would point out to us how
22 the guidelines could be clearer in that respect and also how
23 the changes in the code edition should be treated in the way
24 of assessing the adequacy of aging programs.

25 One of the other programs that is described up
there has a similar struggle for us and that is the
maintenance rule. Doug, would you like to comment on what
the industry's view is about it?

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MR. WALTERS: Yes. The maintenance rule ensures

1 functionality of equipment and that is the same end result
2 that we are looking for in license renewal and we ought to
3 get credit for what we do under the maintenance rule.

4 MR. GRIMES: Could you be a little more specific
5 in what form --

6 [Laughter.]

7 MR. GRIMES: -- that credit might take?

8 MR. WALTERS: How much more specific can I be?

9 Well, I'll comment on structures, for example.
10 Excuse me -- Doug Walters from NEI.

11 You know, structures were considered inherently
12 reliable under the original version of the maintenance rule
13 and the industry came to the conclusion as I think the NRC
14 did that that probably isn't appropriate, so now we do
15 structural monitoring under the maintenance rule.

16 Now some people will say yeah, but you are not
17 looking specifically at aging effects, but the reality is
18 that the maintenance rule is a regulatory program that
19 ensures functionality of structures and at the end of the
20 day under license renewal, after I have identified the aging
21 effects I am probably going to do the same management of the
22 structure under license renewal that I do under the
23 maintenance rule, and the end result of license renewal is
24 to ensure functionality of the scope of equipment that is in
25 the rule.

 In that regard, our position is that we ought to
get credit for what we do under the maintenance rule.

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 I think the comment was made that we ought to be
aware of other things that are going on within the agency,

1 and I think that is one of them, and if we are going it
2 under license renewal then give the license renewal
3 applicant relief under the maintenance rule.

4 But I think that is one where -- and to the credit
5 of the agency, I will say that just like we took credit for
6 the maintenance rule in part for defining the appropriate
7 scope of renewal, we now ought to acknowledge that it in
8 fact does ensure functionality and that that is okay for
9 license renewal.

10 MR. GRIMES: Any other comments or thoughts about
11 how the maintenance rule might fit into a license renewal
12 review?

13 I tend to agree that conceptually I think what the
14 Staff has been trying to do is to identify what is being
15 done under the maintenance rule that contributes to manage
16 aging effects -- the nature of the inspections, how they
17 ensure functionality and how that functionality relates to
18 the licensing basis.

19 MR. WALTERS: Yes. If I could just add on to my
20 comment, I think just listening to the discussion today,
21 which is helpful, it still seems to me, and the maintenance
22 rule is a good example of it, somehow we think there is a
23 big difference between operating in year 39 and operating in
24 year 40 and that with regard to, let's say, structures that
25 are covered under the maintenance rule, that somehow those
structures now act differently or they look differently or
they perform differently merely because we are going through
AN license renewal, and okay, I have got to spend "x" number of
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LE man-hours to review the maintenance program because I am in

1 the renewal side of the house.

2 I have got to review the maintenance rule program
3 to make sure I am satisfied that it does what I think needs
4 to be done in license renewal, and I think we need to get
5 away from that kind of thinking. I think you need to go
6 look at what has been done.

7 The maintenance rule gets inspected. It is part
8 of the routine regional inspections, I believe. They have
9 done baseline inspections where they have looked at
10 structures. I think we are just missing an opportunity if
11 we don't take maximum credit for what we do there.

12 MR. BAGCHI: I just wanted to clarify some things
13 that I heard.

14 Yes, to the extent that the programs that apply to
15 structures that are within the scope of license renewal
16 applications, there have been times they have been found
17 adequate and acceptable as is, but a review by the
18 individual applicant looking at various structures indicated
19 that some of the existing programs may need to be modified
20 or some additional programs may need to be put in place, so
21 those kinds of review are expected and they are going to
22 continue.

23 MR. GRIMES: I think I will add to Mr. Bagchi's
24 comment by saying you put us at a disadvantage when rules
25 that were created for one purpose are then credited for
another purpose, but you want maximum flexibility to
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implemented these programs, so to the extent that we have
tried to understand how the programs are being implemented
in order to be able to articulate how aging effects are

1 going to be managed has been the struggle that we have gone
2 through trying to be able to articulate how these programs
3 should be credited for the purpose of license renewal.

4 We started this exercise -- actually I think I
5 would prefer to say we started this adventure in credit for
6 existing programs with environmental qualification, where
7 even though environmental qualification has been a
8 regulatory requirement for some time and there was a period
9 when it was an extremely controversial and awkward subject
10 to deal with. Now that the practices are relatively
11 well-established, there is still a certain flexibility in
12 those programs that we explored in our first two
13 applications before we concluded that the procedures and
14 practices that are used to comply with 50.49 provide an
15 adequate process for managing aging effects associated with
16 qualified equipment.

17 Paul, would you like to say anything about what
18 effort went into reviewing the EQ programs for the first two
19 applicants?

20 MR. SHEMANSKI: My name is Paul Shemanski.

21 Basically there were two different approaches.
22 The Calvert Cliffs approach basically -- first of all, EQ is
23 a TLAA, Time Limited Aging Analysis, and that gives you
24 several options for treating it as such.

25 In the case of Calvert Cliffs, they basically
decided not to analyze the EQ program at this point and in
essence they deferred it until some time in the future.

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N However, we did look very extensively at what they proposed
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LE in terms of reanalysis. That seemed to be the option they

1 chose.

2 As you know, components are qualified for 40
3 years, long-lived electrical components on the EQ master
4 list, and the option of choice was to extend the qualified
5 life from 40 to 60 years in terms of using reanalysis, so in
6 that area we were very interested in finding out the
7 analytical methods, the data collection that was used, the
8 underlying assumptions, acceptance criteria, corrective
9 actions and so forth, so that was the main area we focused
10 on with Calvert Cliffs, and we are satisfied that in fact
11 their EQ program can be credited as an aging management
12 program for license renewal.

13 The approach for Oconee was slightly different.
14 Oconee decided for a particular group of EQ components to
15 actually go ahead and do the analysis at time of
16 application, particularly for cables Oconee used the
17 reanalysis approach to extend the qualified life from 40 to
18 60 years and in that particular case we actually had a
19 meeting with them to review the analysis that they actually
20 did use, primarily the Arrhenius methodology, and after
21 reviewing five or six in-depth calculations we were
22 satisfied that they had a good handle on being able to
23 extend the qualified life, particularly for cables, from 40
24 to 60 years.

25 So there were two different approaches by the
first two applicants, however we did find both approaches
acceptable. That is basically a summary of the EQ story for
Oconee and Calvert Cliffs.

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MR. GRIMES: Yes. I would like to add to

1 something that Paul said. The options that the rule
2 provides for time limited aging analysis so you can either
3 requalify them for the longer life, in which case you re-do
4 the analysis or you re-do the experimental data, whatever
5 the qualified life is based on, and then review the results
6 or you provide a program that demonstrates how the results
7 are going to be managed and that they are slightly different
8 approaches in terms of what the Staff looks at in order to
9 develop a conclusion. So for a long time we have looked
10 more at the results and inferred attributes about programs
11 and now we are having to go back and switch gears and look
12 at the programs and to develop a conclusion about how the
13 results will be -- how we would be confident that the
14 results the program would produce are acceptable.

15 That is why we have ended up exploring
16 environmental qualification and maintenance rule, because we
17 have had to look at it from a slightly different
18 perspective.

19 Comment or question?

20 MR. STENGER: Yes, Chris, I was just wondering
21 what or if the NRC has a standard you use for determining
22 whether an existing program would be modified or augmented?
23 Is there some threshold that applies or is it up to the
24 individual reviewer's discretion? How does that work?

25 MR. GRIMES: Sam, you want to comment on it?

DR. LEE: Yes. I guess the Staff reviewer, as
described earlier, identifies the component, the aging
AN effect, and they try to match it to a program that manages
N RI the aging effects so a lot of this is based on judgment and
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1 sometimes data, as was talked about, influence, and then we
2 also have management oversight so if there are certain
3 things to make sure the reviewers are, I guess, consistent
4 in applying the review for all the applications.

5 MR. GRIMES: The general answer to your question
6 is that is what those 10 program elements represent. We
7 look to see whether or not there are features for each of
8 those attributes that address the specific components that
9 are within the scope, the inspection or evaluation methods,
10 whether there are acceptance criteria, and what GALL
11 attempts to do is to catalog all of those things so that we
12 will know where the gaps are that we are going to be looking
13 for supplementary information from the individual plants.

14 That is the extent of the guidance that we have
15 been able to add to what we already put into the Standard
16 Review Plan for license renewal.

17 Any comments or questions about other regulated
18 programs? Are there other regulatory requirements that you
19 think are important to acknowledge in developing the generic
20 aging lessons learned?

21 MR. STENGER: You had posed the question how the
22 maintenance rule could be used. I was just wondering if the
23 Staff could offer their insights how you think the
24 maintenance rule program could be utilized for license
25 renewal purposes.

MR. BAGCHI: I would like to maintain -- this is
Goutam Bagchi, NRR -- I would like to maintain that the
AN maintenance rule program as it applies to a specific scope
N of component covered by the maintenance rule -- structure,
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1 for example -- if it is covered then the maintenance rule is
2 more than likely to address the 10 elements that we have
3 been addressing, and probably would be adequate, but it is
4 where they are not addressing the essential elements of the
5 program and they are not even covering the scope for the
6 license renewal application. Then we would have to think
7 about something.

8 MR. WALTERS: Let me ask a question about the
9 attributes. Could you explain how you developed the 10 and
10 why it is those ten and not fifteen or why it is not six?
11 What is it about those 10 attributes leads to the conclusion
12 that an enhancement is necessary?

13 MR. GRIMES: Actually in this forum, this is the
14 one opportunity I get to turn tables.

15 What would you offer as a different set of
16 elements that would be used?

17 MR. WALTERS: Well, in our guidance we have I
18 think 12 elements. The difference is we say those are
19 typical attributes. We don't say that they are all required
20 and that those are things that you ought to look for.

21 So I don't have anything to offer, but it's your
22 requirement now, it seems, and I'm curious why it's those
23 ten and, more specifically, why does that lead to the
24 conclusion that an enhancement is necessary?

25 MR. GRIMES: We're here to get feedback, and so we
feel like if you feel that we've missed an important program
element or we've missed an important attribute that should
AN be considered when making assessments about the adequacy of
N RI programs to manage aging effects, if we ought to break the
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1 attributes out differently or treat them differently, you
2 know, we're looking for feedback.

3 But we started with this set of program attributes
4 based on looking back at the experience from the nuclear
5 plant aging research. And we said this sure looks like the
6 right set of things to look for in a program.

7 And then as we've explained, for particular
8 programs, you find that sometimes this ten fits well, and
9 sometimes we find that it takes a combination of programs to
10 cover all of the attributes.

11 And so it provides us with a template. I want to
12 emphasize the ten elements aren't a requirement. It was a
13 template that established the initial standard review plan
14 and the way that we proceeded with the first two renewal
15 application reviews.

16 And as a relatively crude device, it worked
17 reasonably well. As a matter of fact, I would argue that it
18 worked very well.

19 We're now looking at trying to refine the tools,
20 trying to refine the templates and the guidance to be more
21 specific, to take advantage of the experience that we've
22 seen, and also to learn how to do it better in the future.

23 And so if there is a different template to use to
24 evaluate programs, or if there is a way to evaluate
25 combinations of programs more efficiently, we'd like
feedback.

AN Any other comments or questions? Any other
N programs you want to explore, Barry?
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LE MR. ELLIOT: No.

1 MR. GRIMES: You're not be adventuresome.

2 MR. ELLIOT: I would just like to comment about
3 the comment here. You raised an interesting point about do
4 we need to supplement or change the existing programs when
5 new beltline materials reach some value?

6 Under the current policy on -- not policy, but
7 under the current evaluation, we are most concerned about
8 the limiting material. And so if the limiting material
9 doesn't change, the materials in the capsule shouldn't have
10 to change.

11 However, we will rethink this because it's a good
12 point. And if there are -- maybe we have to have some kind
13 of guidance in the GALL about how similar do the materials
14 have to be that are not limiting that the surveillance
15 program material is applicable to? And we'll take that into
16 consideration.

17 MR. GRIMES: I think Dr. Nickell wants an
18 opportunity for rebuttal.

19 MR. NICKELL: Not rebuttal. I just wanted to say
20 that I found the first part a complete and direct answer to
21 my question; that is, as long as the words, limiting
22 materials, are used, I believe that we're all very happy.

23 I'm not sure why we want to explore any further
24 regulations, if, in fact, limiting materials are covered by
25 what you're trying to accomplish.

MR. ELLIOT: Right now, the limiting material is
all we're worried about. I just don't know where you're
AN headed.

RI It seems like the materials in the vessel are very
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1 similar, basically equivalent, and limiting is okay.

2 MR. GRIMES: But I will take the opportunity to
3 mention that Paul Gunter previously pointed out that when we
4 articulate how we look at the adequacy of the programs to
5 bound certain conditions, we need to be clear about how the
6 evaluation bounds both the material properties of interest
7 and the intended functions that we rely on to perform
8 certain -- either safety functions or other regulatory
9 requirements.

10 One of the other areas where you had a lot of
11 comments from NEI on -- I think that a general area related
12 to applicability of IWE and IWL for containment. Doug, did
13 you want to offer any insight in those areas in terms of
14 whether or not you think we're giving adequate consideration
15 to credit for those activities?

16 MR. WALTERS: I'll have to defer to either Dr.
17 Nickell or John Carey in terms of the specifics, but I would
18 just comment and give you feedback that I think it's another
19 example of where if you look at renewal as a process, it's
20 not clear why we would need to do anything different in the
21 renewal period to deal with those items.

22 But I think that in terms of the specifics, I'll
23 let -- if you want the technical --

24 MR. NICKELL: Bob Nickell, EPRI. Do you want to
25 go, John, first? I was just going to say that as is often
the case in such discussions, the devil is in the details.

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LE And it probably would be more appropriate for us to wait
until we've had a chance to read the GALL report to see what
actually has been carried forward.

1 But an example of one of the issues that was
2 raised by NEI was the need to do an Appendix 8 type ASME
3 qualification from ultrasonic inspection that really is only
4 measuring wall thickness, which is absurd.

5 And so we were arguing about those details, as
6 opposed to the general tenor.

7 Chris, your comment earlier, that looking at
8 accessible areas in order to make a determination where one
9 might want to inspect in inaccessible areas, in fact, is a
10 quite acceptable approach.

11 We were a little worried about the movement
12 towards requiring inspection of inaccessible areas where
13 there is no evidence of a problem in an accessible area.
14 And I'm glad to hear that that's not the case any longer,
15 apparently.

16 [Laughter.]

17 MR. GRIMES: We'll wait and see if there are some
18 suggestions to the contrary. Mr. Carey, would you like to
19 comment on that topic?

20 MR. CAREY: Yes, John Carey, EPRI. I mean, the
21 important thing is that we haven't seen the fall containment
22 section. So, we look forward to seeing that section.

23 MR. GRIMES: But you have seen the extent to which
24 the staff has been exploring --

25 MR. CAREY: Through the application.

 MR. GRIMES: That's correct.

 MR. CAREY: That's right, and we believe that

AN
N IWV/IWL is sufficient for license.

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LE MR. GRIMES: And you don't think that it needs to

1 be augmented?

2 MR. CAREY: No.

3 MR. GRIMES: Does anybody have any comments that
4 it should, where it might?

5 MR. GUNTER: Could you explain what those two
6 acronyms are, first? MR. GRIMES: I'm sorry. I don't
7 think it's an acronym. It's a code designation for a
8 chapter in the ASME code that applies to containment
9 inspection requirements. Did I say that correctly?

10 MR. BAGCHI: That's right, IWV for steel
11 containments and IWL for reinforced and prestressed concrete
12 containments.

13 MR. GRIMES: If the ASME gets an opportunity to
14 change the structure of the code so that it's more readily
15 understandable in plain english, we encourage you to do
16 that.

17 [Laughter.]

18 MR. LOCHBAUM: Something may be of interest to
19 people who are familiar with the '96 edition of the code.
20 There are some things that have been incorporated in there.
21 They are more current and up to date, and maybe some of that
22 material could get into the license renewal review.

23 Basically this program is acceptable, and Part
24 54.21.c.1.3.i, allows somebody to look at the programs on a
25 continuous basis, look at the results of the program on a
continuous basis. That, I think, is the best way to ensure
containment integrity.

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MR. GRIMES: Comment or question from Mr. Morante?

MR. MORANTE: Yes, I'm Rich Morante from

1 Brookhaven National Laboratory, and we were responsible for
2 developing the GALL table that covers containment. Just so
3 there is no misunderstanding, when you read the GALL table
4 that covers containment, the issue of inaccessible areas is
5 still considered open.

6 And it is not resolved by following 50.55.a. That
7 will be subject to further discussion between the staff and
8 industry in the future in resolving that.

9 But I didn't want anyone to go away with the
10 misinterpretation that this has been resolved in accordance
11 with the 50.5.a requirements.

12 MR. GRIMES: So we would look for a plant-specific
13 explanation about how to implement the inspection findings
14 that might apply to inaccessible areas.

15 Alec, did you have a comment or a question?

MR.

16 SO: Yes. Just from discussion, we certainly appreciate
17 that there is some clarification as far as using later
18 edition of the code to satisfy some of these requirements.

19 One example that we certainly can think of, a
20 specific example, like, for example, we are dealing with
21 prestressed and post-tensioning. There are some plans that
22 have grouted tendons.

23 Okay, that's a very solid example in the sense
24 that some plants have additional tendons installed just for
25 that purpose. But that's for the demonstration of 40 years,
and some clarification in that respect is certainly
appreciated.

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MR. GRIMES: Gotam did you understand that?

DR. LEE: Gotam understands that perfectly.

1 [Laughter.]

2 MR. SO: Yes, we had several discussions with Mr.
3 Bagchi.

4 MR. STENGER: Dan Stenger with Hopkins and Sutter.
5 I have a licensing comment on IWE/IWL. My recollection was
6 when that rule was promulgated, there was a specific
7 determination by the Commission that IWE/IWL was acceptable
8 for license.

9 I was a little surprised to see in the SRP that
10 there was some question about that. I don't know if I
11 missed something there.

12 MR. GRIMES: Actually, there was a statement, and
13 the statement is a consideration for IWE and IWL that says
14 that the promulgation of those regulatory requirements are
15 adequate for license renewal. I can tell you that I was a
16 little surprised by that conclusion, too.

17 And we're trying to -- still trying to ferret out
18 to what extent, how far we meant that that conclusion should
19 go.

20 But I'll tell you that the initial impression is
21 that when we look back at the review of the rulemaking
22 activity, I believe what we meant just wasn't clearly
23 articulated. We meant that compliance of IWE/IWL is not
24 inconsistent with license renewal, which is a very different
25 conclusion.

AN But that we still want to go through this exercise
N of cataloging what IWE and IWL do for aging management
RI programs, and to see whether or not there's a need for any
LE augmentation of those activities.

1 MR. BAGCHI: Can I ask for a favor? Identify
2 those inconsistencies and provide those as your comments,
3 please? This is a forum for eliciting those comments, so
4 please provide your comments.

5 MR. STENGER: Sure, certainly. And one thing I
6 would offer, picking up on the point earlier, as you develop
7 new regulations, the ASME Code rule that came out recently,
8 whatever it is, the NRC could look at the new regulations
9 and see if it will serve the purpose of Part 54, and make a
10 determination that that's the case, and then I think it
11 could help avoid confusion down the road.

12 MR. BAGCHI: Please forgive me, but I do need to
13 clarify something. This is not just a Part 54 problem; it's
14 a problem for current Part 50 regulation, inspection
15 programs, plans, all of those things.

16 And the staff continuously receives requests for
17 exemption -- not exemption, but requests for relief on some
18 of these requirements, and alternatives are provided on the
19 basis of arguments that these things do show up in the later
20 edition of the code, and it's just a matter of articulation
21 of your reasons for requesting relief.

22 MR. GRIMES: Mr. Pickens, you want to make a
23 comment?

24 MR. PICKENS: Yes, Terry Pickens, Northern States
25 Power.

 Chris, I wanted to ask you this: You mentioned
that looking at the list of examples up there, that there is
AN a mismatch or you're disadvantaged because we're asking to
N
RI take credit for them in a way that they weren't necessarily
LE

1 intended when they were put in place.

2 I guess my question is, looking at the list, other
3 than quality assurance and fire protection, can you comment
4 on which of those are up there for reasons other than aging?

5 I guess that in the work that we've done, going
6 back to the basics of those programs, they are all there to
7 respond to degradation, aging that's occurring for various
8 reasons, but they are there for those reasons.

9 MR. GRIMES: Yes. My general reaction is that
10 when we put this list together, we found that the extent to
11 which these regulatory requirements evolved over time,
12 didn't consistently look at how well they manage applicable
13 aging effects, and that when the Commission determined,
14 after its exercise in 1991, at a time when the NRC believed
15 that there were unique aging effects to the license renewal
16 period --

17 And it took us until 1995 to discover that aging
18 effects are not unique to the license period. I don't know
19 why it took us that long to figure that out. Mother Nature
20 didn't design aging on a 40-year cycle.

21 But I think that the message that you see when you
22 look across these programs is that depending on when they
23 came about and how they've evolved over time, that there are
24 varying degrees to which these regulated programs
25 effectively manage aging effects.

Some don't need to be augmented at all; and others
need to be augmented some. And I think the basic message
AN that we're trying to convey here is that we still have a
N RI
LE need to reflect back on how even regulated programs, how

1 well they manage aging effects.

2 Mr. Morante, you had another comment or question?

3 MR. MORANTE: Oh, no, sorry.

4 DR. LEE: I guess that one other thing that I
5 wanted to add is that in Part 50 specs, the focus is on the
6 40 years. I guess we have comments on GQ. Basically you
7 qualify for 40 years.

8 Your comments are on Appendix G and Appendix H,
9 the PTS Rule. Those are for 40 years. So even though the
10 regulations are in there to address certain aging effects,
11 but the focus is on 40, so you might need to do something
12 more on 60.

13 MR. GRIMES: Yes, I'd also like to add that early
14 in my career, I was directly involved in the development of
15 leak testing requirements under Appendix J.

16 And I can tell you that we didn't view the primary
17 responsibility of Appendix J to manage aging effects
18 associated with containment integrity. We were looking at
19 the ability of a process that was going to monitor leakage
20 conditions and then respond according to how the plant
21 responded to leak testing, not necessarily to manage
22 particular aging effects.

23 But still, Appendix J is a useful tool to refer to
24 and to take credit for in terms of the inspection that it
25 provides for the containment. But it's a small part, as
compared to the larger reliance that really gets to IWE or
IWL or plant walkdowns.

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There are other more direct ways to manage aging
effects for containment.

1 MR. PICKENS: I had another question.

2 MR. GRIMES: Yes.

3 MR. PICKENS: Terry Pickens, Northern States
4 Power. Is the staff, in GALL, going to attempt to identify
5 how they believe the aging is going to behave differently in
6 the extended period of operation so that we can assess
7 somehow whether or not the changes to the program are
8 adequate to address that change, or whatever it is?

9 DR. LEE: I don't think we are saying that aging
10 is any different after year 40. We are saying the program,
11 okay, like I guess Paul Shemanski mentioned earlier on on
12 EQ, okay, when you are to do the analysis to extend from 40
13 to 60, okay, there are certain methodologies that need to be
14 used. Okay. So he is looking to that. And Barry also
15 mentioned earlier about reactor vessel assurance program.
16 If we tried to go from 40 to 60 years, on your capsules,
17 okay, there are certain withdrawal schedules that they want
18 to see. Okay. That kind. It is not like aging is any
19 different.

20 MR. GRIMES: You know, one other feature of the
21 program elements, the process that we look at is that we
22 look for a process that is going to be self-correcting. A
23 program that performs inspections or monitors plant
24 conditions and then responds accordingly. And I think the
25 broadest example that we have referred to is reliance on
prompt and effective corrective action in Appendix B, and
that is a system that looks for trends, looks for root
causes and then adjusts the program accordingly.

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So if aging effects are going to develop at a

1 different rate in the future, we expect the process is going
2 to respond accordingly. That is a similar concept that the
3 ASME code was founded on, and that was inspection techniques
4 that start off at a certain frequency and a certain --
5 looking for certain things, and then changes itself, or
6 morphs into whatever it needs to do as it learns and grows
7 and develops data.

8 And so in any of these programs, we expect that
9 there is going to be a feedback loop. Some of these
10 programs, you can see how the feedback loop has learned and
11 has responded, and it has changed over time. And others it
12 either hasn't had anything to learn from, or it is looking
13 at an aging effect, or it is looking at some effect that has
14 a long incubation period and won't be manifest for some
15 time.

16 Somebody once asked me, is a nuclear power plant
17 operator on a bathtub curve? Is there a finite time at
18 which, all of a sudden, everything is going to start going
19 to hell and, you know, just going to come apart? It is an
20 interesting question. I didn't answer it. And, no, Dave, I
21 don't know that I have to.

22 MR. LOCHBAUM: I was going to answer it for you,
23 but --

24 MR. GRIMES: Yeah, I thought so. Yes, Mr.
25 Polaski.

 MR. POLASKI: Fred Polaski from PECO Energy.
Taking a look at the programs you have listed up there that
AN are regulatory programs, some of those have their basis in
N
RI other codes beyond what the NRC's regulations are. For
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1 example, ASME codes, and I think Barry Elliot mentioned ASTM
2 codes and requirements for neutron embrittlement on the
3 vessel. And some of these that were strictly regulation, it
4 is well defined within the NRC.

5 If, in your review of these for GALL, as we go
6 through this for license renewal, there is a determination
7 made that the program or the code is not adequate for beyond
8 40 years, is it the NRC's intent to go back and go back
9 through the code process and the process for changing
10 regulations and get the codes updated, and the regulations
11 updated, so they specify what the requirements are for 60
12 years? My way of looking at that, that provides the
13 ultimate stability for license renewal if the regulations
14 and the codes address the interval out to 60 years, and
15 maybe even beyond, because license renewal isn't limited to
16 60 years, it could go beyond 60 years.

17 MR. GRIMES: That is an interesting concept. We
18 have gone forward on the basis that where we see shortfalls
19 in the practices or the regulations, as it applies to
20 effective aging management for the period of extended
21 operation, that rather than go back and either try and
22 change the code or change the regulation, is we would simply
23 -- we would address the delta, and that is the way that we
24 are proceeding with this process. But David mentioned
25 before that, you know, there is a possibility we could
simply declare a moratorium on license renewal and go fix
all of the related regulations, code, standards and
AN practices, and bring them all up to a point where, you know,
N RI they satisfy all the aging management needs, and then we
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1 might -- we could probably argue that you don't need license
2 renewal, you just let the process go forward from there.
3 That is a concept that is used in some other countries.

4 MR. POLASKI: And ultimately you may get there,
5 but I think you will never get to the point of understanding
6 what all those deltas are unless you get through the
7 existing process. So I don't think it is going to get there
8 for the first 10 or 15 applicants, but maybe for the last
9 plants that were licensed, or the second half, you may
10 ultimately get there.

11 The other thing is that if you do it -- one of my
12 concerns is, if you do it just through the GALL process and
13 you get into areas where it is up to an individual licensee
14 to make those determinations what it is you need for that
15 additional time period, and you are going through the
16 reviews, that allows the possibility of regulatory creep to
17 play in and, you know, not get it to the point that we are
18 as efficient and stable as we possibly could be. If it gets
19 defined in code and everybody is going through the code
20 process, then it is very clear what it is you need to do.

21 So I don't think that is a short-term solution,
22 but I think it ultimately is where you could lead to to get
23 the ultimately stability and predictability out of the
24 process.

25 MR. GRIMES: That is a good comment and that is
one that we will hang onto for the next phase in this
process after we get the initial guidance resolved, is to go
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N back to the Commission with recommendations for rulemaking,
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LE and that is certainly an area where we could recommend the

1 Commission consider rulemaking as a solution.

2 Other comments or questions about regulated
3 events?

4 MR. WALTERS: Is it an appropriate time to ask a
5 clarifying question about how you dealt with these in GALL,
6 or should I save it?

7 MR. GRIMES: Go ahead.

8 MR. WALTERS: I recall at some point there was a
9 statement made by the staff that, for example, 50.49 is not
10 a program. It is a regulation, it is not a program.

11 MR. GRIMES: Actually, I believe --

12 MR. WALTERS: Oh, go ahead.

13 MR. GRIMES: Go ahead.

14 MR. WALTERS: Well, I was going to say my question
15 is, if that is the case, if, in fact, the regulation is not
16 a program, could you just help me at least understand, when
17 we see GALL, and we see an evaluation of, say, EQ, which we
18 have seen in the one chapter you sent out, but as we see
19 these other ones, was the evaluation done actually on the
20 regulation, or was it done looking at the implementing
21 guidance documents for the regulation and trying to assess
22 how a program would be crafted to address that regulation?

23 MR. GRIMES: Yeah, let me start off by saying that
24 I think that -- and we didn't transcribe the dialogues that
25 we had with the meetings, but if you go back and look at the
meeting summaries that we put together, when we were first
talking about environment qualification, it wasn't that we
AN said EQ is not a program as much as we were trying to say,
N RI
LE you simply can't say compliance with 50.49 constitutes

1 adequate aging management. We were looking for the
2 underlying practice and, in fact, I would encourage you to
3 think about what is a program. What are the attributes of a
4 program?

5 We have put some program names up here. We have
6 said EQ is a program, but it doesn't operate in isolation,
7 it operates in the middle of some other things. And
8 programs are really a convenience for us. When we refer to
9 a program, it is simply that collection of procedures,
10 practices, and standards that are conveniently related to
11 one objective. The ASME code is called a program, but it is
12 a collection of practices that are related towards the
13 integrity of the pressure boundary.

14 Environmental Qualification is called a program,
15 but it was actually that collection of practices,
16 procurement activities, design activities, testing
17 activities. You know, all those things fit together in
18 order to establish a qualified life for electrical
19 components.

20 So we have to be more careful in the future, I
21 think, about referring to programs, you know, too broadly,
22 or in too general a term. What we are looking for is the
23 underlying implementing guidance and its features, and how
24 those implementing guidance, or the implementing practices
25 satisfy the needs of managing aging effects for particular
components that are within the scope of renewal.

Does that answer your question?

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MR. WALTERS: Yes, I was just trying to understand
when GALL is -- or when we see it and review it, was the

1 review of a program? I mean is the way this is, I think,
2 spelled out. But what was really reviewed and what is the
3 evaluation really focusing on? And I didn't know if it was
4 -- I didn't think it was one singular thing. It seemed to
5 me it was some of the -- most of what you had in the
6 reference column and maybe the regulation itself. But I
7 offer that in contrast to you did not go back -- well, maybe
8 you did. I should ask that question, or maybe give you that
9 as feedback. Maybe you should go back and look at the
10 programs in a specific plant to see how did they do it. I
11 don't know if you did that or not.

12 MR. GRIMES: Actually, we did, that is what caused
13 us to look at this in the first place. When we started
14 going out and exploring how EQ is being implemented for the
15 first two applicants, the industry's reaction is, you are
16 reverifying compliance with 50.49. And we said, no, we are
17 trying to understand how the implementing practices manage
18 aging effects. Not whether or not you comply with 50.49,
19 but how does the practice of complying with 50.49 provide
20 for managing aging effects for the systems, structures and
21 components within the scope of license renewal?

22 MR. WALTERS: All right.

23 MR. GRIMES: Paul, do you want to add anything to
24 that?

25 MS. SHEMANSKI: Yes, I would like to add the point
that when I ran through the initial EQ program evaluations
back in the early to mid '80s, in which we had extensive EQ
AN inspections at each and every operating reactor, the focus
N RI there was to look at -- to see how the licensees qualified
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1 their equipment. We looked at primarily test reports to, in
2 fact, ensure that the qualified lifes that were claimed
3 were, in fact, legitimate, those components were qualified
4 for 40 years.

5 Now, we come to renewal and there was a slightly
6 different twist. In renewal, it seems that the option of
7 choice is to go to reanalysis, that is from 40 to 60 years.
8 We never looked at reanalysis early on because plants did
9 not claim or utilize, they had no reason to utilize
10 reanalysis early on. They simply demonstrated qualified
11 lifes by test reports, so there was a new twist here for
12 renewal, knowing that plants now would prefer to use
13 reanalysis for extending the life from 40 to 60 years, and
14 that was why we wanted to look at the attributes. How are
15 you going to do that? How are you going to maintain, or how
16 are you going to collect data showing that your new
17 operating temperatures are lower than what was used
18 initially? So that is why the focus for renewal, at
19 least on EQ, is primarily in the reanalysis area. That was
20 why we sent out some very specific questions to BGE and took
21 a hard look to see how Duke actually did their reanalysis
22 calculations extending the qualified life. So there was a
23 little different twist on EQ here for renewal.

24 MR. WALTERS: But you wouldn't argue that
25 reanalysis is accounted for in the regulation?

MR. SHEMANSKI: It's allowed for.

AN Testing is a preferred method of qualifying a
N piece of equipment. Test plus analysis is acceptable, so
RI basically what they are doing now is using previous test
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1 data to extend the qualified life from 40 to 60 years and we
2 found that to be acceptable provided that it is done in a
3 proper manner.

4 MR. GRIMES: Comment?

5 MR. SANWARWALLA: Yes. My name is Mansoor
6 Sanwarwalla from Sargent & Lundy. Question for Paul --
7 Paul, if you go back and say now that 40 year testing plus
8 analysis for --

9 THE REPORTER: Could you please use the
10 microphone --

11 MR. SANWARWALLA: -- 40 years testing plus
12 analysis for IEEE 323 1983 edition -- why won't the NRC go
13 back and endorse the IEEE.

14 The question that Ted Polaski asked earlier is why
15 don't we have the standard that controls -- why won't the
16 NRC now go back and endorse the 323 1983 edition that will
17 allow us to go back and use their standard to extend the
18 life of these EQ components?

19 MR. SHEMANSKI: As you know, NRC does not
20 currently endorse --

21 MR. SANWARWALLA: Right.

22 MR. SHEMANSKI: -- the IEEE 323 1983. However,
23 that particular document is in the process of being revised
24 and I am a member of the working group representing NRC on
25 that particular subject. Right now it is still in the draft
stage and it is currently being developed. Perhaps NRC will
endorse it, but at this point NRC has not endorsed that
particular document.

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However, that is not to say that reanalysis cannot

1 be used for extending the qualified life from 40 to 60
2 years. We did approve that technique for Duke, particularly
3 on their cables.

4 MR. GRIMES: That gets back to another comment
5 that we had earlier in terms of if you just -- if we could
6 simply say, well, the process is going to manage the codes
7 and standards and regulatory requirements, and the process
8 will provide for the underlying basis by which those codes
9 and standards and regulatory requirements manage aging
10 effects, but what do we do in the meantime while some of
11 these things are moving targets?

12 Can we establish a baseline and to the extent that
13 we can pin down those specific aspects of these standards
14 and practices that manage aging effects, then that provides
15 guidance to the industry on our expectation, but in some
16 cases these codes and standards go to changes in practices
17 or evolution of technology that are changing the codes and
18 standards for other reasons.

19 It doesn't mean that we can't make a finding about
20 the adequacy of aging management while the bar height is
21 being adjusted, if you will, for other reasons, for other
22 changes. Paul Colaianni.

23 MR. COLAIANNI: Yes, Paul Colaianni, Duke Power.

24 Just as a point of clarification, I am talking
25 about programs in the attributes, programs relating to EQ EQ.
EQ is probably not the best example of that, and obviously
from the GALL draft EQ wasn't used as a driver out of the
AN attributes since seven of the attributes would not have to
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LE be addressed for EQ, so it is obviously not the driver of

1 those attributes. That may be a bad example.

2 MR. GRIMES: Thank you. Yes.

3 MR. SANWARWALLA: This is again Mansoor
4 Sanwarwalla from Sargent & Lundy. The question I have is
5 stepping away from license renewal, but the reanalysis
6 portion that we are talking about now extends the life of
7 some of these components -- can we go back and use the same
8 reanalysis to extend the life that is being used for life
9 extension?

10 MR. GRIMES: I'm sorry, could you repeat the
11 question? I didn't understand the question.

12 MR. SANWARWALLA: For license renewal, we have
13 gone back and done reanalysis to extend the life to 60
14 years, try to justify extension of the life to 60 years.
15 Components that are already existing in plants, does the
16 NRC, will the NRC go back and endorse the same philosophy to
17 extend the life of components that have short lives right
18 now?

19 MR. SHEMANSKI: Components with qualified lives of
20 40 years or less than 40 years are short-lived and outside
21 the scope of renewal, so we are only talking about extending
22 the qualified life of components that are currently
23 qualified for 40 years and typically the Arrhenius
24 methodology is used and if the licensee could show that the
25 operating environment is a lower temperature now than what
was used in the original calculations, then they have a
pretty good shot at being able to extend the qualified life.

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MR. GRIMES: Getting back to the underlying
philosophical aspect, the regulation was set up predicated

1 on time limited aging analysis falling into one of three
2 categories.

3 It is either already qualified for 60 years and
4 for some equipment the original qualification basis may have
5 extended beyond 60 years; it is modified so that it is now a
6 60-year qualified life; or it is going to be managed in the
7 future. Those are the three categories provided for in the
8 license renewal rule.

9 What we found is that we are really evaluating the
10 process by which those calculations are done anyhow and so
11 rather than to try and draw separate judgments about the
12 results of those three classes, we are still going to have
13 to make judgments about the adequacy of the procedures and
14 practices that are going to develop the conclusions for
15 those analyses regardless of when the analyses are done.

16 So one efficiency that I see in the future for
17 rulemaking is to eliminate the concept of time limited aging
18 analysis and just concentrate on the underlying practices
19 that are used to manage the analysis results.

20 When I say that though, I tend to frighten off
21 some other folks who say, yeah, but that might sweep in a
22 lot of short lived stuff too. Paul?

23 MR. COLAIANNI: Paul Colaianni again, Duke Power.

24 Just as a point of clarification, I mean actually
25 the extending of qualified lives, that is nothing new.

License renewal was very visible in that it did it from 40
to 60 years but it is the same practice under the current
AN regulation that has been taking place for short lived
N RI components outside of license renewal. If something had a
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1 10 year qualified life, you get a better idea of what
2 temperature it is actually exposed to. You can extend the
3 qualified life of that component, so the reanalysis is
4 nothing new. It has been done since the beginning of the
5 regulation.

6 MR. GRIMES: And actually that raises a good point
7 in terms of a number of the comments that we got from NEI on
8 trying to develop guidelines for the scope and depth of the
9 NRC's review is although you forget it when we talk about
10 fee recovery, we don't have all the time in the world to
11 know everything that goes on in these programs and practices
12 and the plant operators have a lot of experience that they
13 could share that would bolster the explanation about how
14 these programs are implemented to demonstrate how effective
15 they are at doing things like extending qualified life for
16 electrical equipment.

17 Our experience is limited and to the extent that
18 you can supplement that experience with explanations about
19 these practices, how often they are implemented, how much
20 experience underlies some of these programs, that is going
21 to improve public confidence in the ability of these
22 programs to effectively manage aging for the period of
23 extended operation.

24 While that is often viewed in terms of regulatory
25 reporting burdens, I would argue that you should think in
terms of how can the material that you provide in a license
renewal application make a more effective demonstration
rather than just be a lot of words on paper.

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We have talked about the example programs. Does

1 anybody have an example of a regulated program that is not
2 on the list that perhaps should be because it is important
3 in relationship to license renewal?

4 [No response.]

5 MR. GRIMES: I promised I wouldn't talk a lot but
6 it is getting harder and harder.

7 Would you like to break for lunch? Okay, in that
8 case keep thinking about suggestions and feedbacks and
9 improvement in the process, and under the circumstances we
10 will just go ahead and follow the schedule and we will plan
11 on reconvening at 1:15 in this room.

12 [Whereupon, at 11:57 p.m., the meeting was
13 recessed, to reconvene at 1:15 p.m., this same day.]

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A F T E R N O O N S E S S I O N

[1:15 p.m.]

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3 MR. GRIMES: Well, first of all, I'd like to ask
4 that everyone take their seats and get comfortable. Are
5 there any questions or comment that you thought about with
6 respect to regulated programs while you were lunching that
7 we should address before we go on to the next agenda item?
8

9 [No response.]

10 MR. GRIMES: If not, I'll turn it over to Stephane
11 Coffin.

12 MS. COFFIN: Thanks, Chris. Before we broke for
13 lunch, Barry Elliot led the section where we were talking
14 about aging management programs that stem from regulations
15 and rules and tech specs.

16 And here we're doing the same sort of thing, but
17 with a twist. These are what we call reactive programs, and
18 those are programs that are the result of a Bulletin or a
19 Generic Letter.

20 A lot of these, when you're familiar with them,
21 you realize that a lot of these directly address aging
22 management concerns that apply very easily and very simply
23 to license renewal.

24 And one example of those that I can discuss right
25 now, just to sort of get the ball rolling, is the boric acid
corrosion inspection program that licensees developed in
response to a Generic Letter 88-05.

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And just as a very brief background, 88-05 was the
result of repeated instances of problems where we had

1 excessive corrosion of carbon steel, low alloy steel
2 components due to exposure to concentrated boric acid.

3 As a result of that, a number of ions came out,
4 and finally the GL, which we requested licensees develop a
5 program to address this issue. And for most plants, what
6 this turns out to be is a periodic walkdown of all their
7 borated water systems to look for leakage and to address
8 findings when they detect leakage in terms of correcting the
9 leakage, obviously, and evaluating the consequences of any
10 corrosion.

11 And the staff reviewed that in license renewal
12 space, and really found there wasn't any additional
13 requirements that needed to be met for license renewal.

14 If you sit back and you think about that, it makes
15 a lot of sense. The aging mechanism is the same, you just
16 need to continue the program through the license renewal
17 period.

18 And I have listed up there, several other programs
19 that stem from Generic Letters or Bulletins, and we have
20 people here that can directly address specifics of those.
21 But now I can just sort of open the floor up for any kind of
22 comments on any of these programs.

23 You can comment.

24 MR. GRIMES: Yes, as Stephane mentioned, these are
25 examples of instances where operating experiences have
identified specific aging mechanisms and detrimental effects
that needed to be coped with, and they're referred to as
elements of aging management programs, and we think they
ought to be appropriately credited to the extent that there

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1 is a consistent or a typical treatment amongst plants.

2 Doug, would you like to offer any observations?

3 MR. WALTERS: Yes, Doug Walters, NEI. I'll
4 observe that we provided an example in a paper we wrote
5 about Generic Letter 89-13, and I'll just reiterate what we
6 said in that letter.

7 In our view, Generic Letter 89-13 should be
8 credited as an acceptable aging management program because
9 it specifically identifies, certainly for heat exchangers,
10 that there is some significant fouling that can occur as a
11 result of age-related in-leakage and corrosion or erosion.

12 That's clearly delineated in the Letter. That is
13 a concern because of some concern with being able to verify
14 heat transfer capabilities. So I think that at least those
15 two elements, we've identified what the intended function
16 is, and what the aging effect is.

17 I would caveat that to say that intended function
18 is completely agreed on in the industry is premature, but
19 certainly for the sake of this example, that Generic letter
20 identified the aging effect of concern. It clearly
21 identified what the scope is, and it identifies what the
22 function is.

23 And there is, I believe, an attachment to that
24 Generic Letter that indicates what kind of program the NRC
25 would find acceptable for managing that aging. Again, I
won't go into all that, but based on the fact that in our
reading of the generic letter, it's got those four elements.

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N We think that's one you probably don't need to look at in
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LE much more detail.

1 MS. COFFIN: Doug, I spent a lot of time looking
2 over for Oconee. This issue didn't really come up with
3 Calvert because we were still wrestling with the heat
4 exchanger function. But for Oconee, they -- instead of just
5 writing a very simple answer, you know, that we comply with
6 89-13, they essentially gave us their heat exchanger
7 performance testing.

8 And so that's sort of the very subtle twist, is
9 that, yes, you have an adequate response to the Generic
10 Letter, but you need to show how that response turns into an
11 aging management program, and Oconee did that very well.

12 That's the sort of only extra work that we have to
13 go for a lot of these programs, where the obvious intent of
14 the GL wasn't necessarily an aging management program.

15 MR. WALTERS: Yes, I would just comment on that,
16 that, again, I think this is an example that highlights
17 maybe some confusion we have in the industry. Here's an
18 example of a Generic Letter issued by the NRC.

19 It identifies what aging effect is -- strike that.
20 It identifies the aging effect of concern, based on
21 operating experience, I believe. It talks about
22 functionality, but I think, more importantly, it identifies
23 a program that the NRC staff would find acceptable.

24 Now, what I don't understand is in terms of GALL,
25 why the review wouldn't focus first on, well, what did we
ask the licensee to consider? And if -- now, you may come
back and say it doesn't have all ten attributes.

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Well, I don't know about that, but just on the
face of it, it's not clear to me why GALL wouldn't focus

1 first on what did the Agency ask of the licensee? And are
2 we satisfied that a program that complies -- did we mean
3 what we said? Did we mean that this program that's in
4 Appendix A to the Generic Letter is adequate for managing
5 that aging or not?

6 And if it is, why isn't that sufficient to say in
7 GALL, and then a licensee could say, well, that's what my
8 program looks like or -- let me also be clear; we're not --
9 we don't support, necessarily, the position that even in
10 that instance, it's a one-sentence discussion in the
11 application.

12 There's got to be more information, but for
13 purposes of GALL, I don't understand why something like that
14 wouldn't work, just looking at what the Generic Letter asked
15 for.

16 DR. LEE: This is Sam Lee from License Renewal
17 Branch. In GALL, that's exactly what we did before. We
18 asked to look at the Generic Letters and Bulletins to find
19 out what the Commission requested the licensees to do.

20 And based on that, we tried to evaluate based on
21 the ten attributes. And if it's acceptable, we had to come
22 to the conclusion that it's acceptable.

23 And now to go back to somewhat the -- the real
24 experience, we found that in some places we actually have to
25 remind the applicant that like the bolting program, the
Bulletin 82-02, we have to remind the applicant that, gee,
you have this program in place, why didn't you mention that
and credit that? To us, that has certain attributes that
manage aging. Okay, so, I guess it's two ways.

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1 We actually find places, instances, where these
2 programs are not relied on for license renewal, and they
3 should be.

4 MR. GRIMES: I think it gets back to another
5 comment that Dave mentioned and NEI has pointed out as well
6 in terms of the extent and level of detail of commitments to
7 continue these programs and to incorporate them as part of
8 the licensing basis, at least in the example of these
9 reactor programs, the Generic Letters and Bulletins,
10 depending on the extent to which these commitments then get
11 folded back into the FSAR or become a part of the licensing
12 basis of the plant so that they can be relied upon through
13 the period of extended operation, is a part of that question
14 about the devil in the details.

15 You know, how far down do we go in the details of
16 the committed actions, and incorporating them into the
17 licensing basis for future changes? I think that that's
18 an area that we want to pursue as part of GALL as well.
19 When you're commenting on the attributes of these programs,
20 keep in mind that these are going to become attributes which
21 become our expectation in terms of incorporating them into
22 the licensing basis and relying on them for that purpose.

23 Dave, you had a comment? MR. LOCHBAUM: I had a
24 couple of process questions that will turn to observations,
25 if you don't have the answers today.

 The first was the fact that it was reactive
programs implies, at least to me, that the GALL process
AN includes some formal mechanism to review emerging issues in
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RI the future to see if they need to be addressed, or that the
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1 NRC is going to stop being reactive, one or the other. I'm
2 just curious as to which.

3 And since that became an observation, the second
4 one, is there a management directive that governs the GALL
5 process or some other procedure? MR. GRIMES: Well, the
6 response to the first observation is, I expect the NRC is
7 going to continue to be reactive, and that is to act on
8 lessons, act on operating experience, and make conscious
9 decisions about whether or not regulatory requirements,
10 including our expectations for license renewal are going to
11 be revised and updated.

12 MR. LOCHBAUM: And that also means that the GALL
13 process has some formal mechanism to view the output of that
14 reactive mode?

15 MR. GRIMES: That's correct. I would expect that
16 if not GALL, specifically, the standard review plan, at
17 least would be considered as it needs to be revised as
18 future lessons are learned and future experience evolves.

19 Right now we're going to concentrate on making the
20 largest whack at these aging management programs, but then
21 we will have to establish as part of our event evaluation
22 and feedback process, how license renewal specifically would
23 fit into changes in guidance or changes in requirements.

24 Other comments or questions?

25 MR. BOWMAN: Marvin Bowman, Constellation Nuclear.

One observation, Chris, is a need for a clear
definition of what's different for license renewal. When we
AN get into implementation space and we go out and deal with
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RI the stakeholders in the plant and we tell them we've
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1 credited your program for license renewal, the first
2 question we typically get from them is, okay, so what's
3 different?

4 And if we can't define for them what's different
5 now, they will have a difficult time in the future
6 understanding if we put a hook in their procedures that says
7 this is credited for license renewal, they'll have a hard
8 time figuring out what is different about that program.

9 And what we try to avoid is having them go back
10 down the same two parallel paths to end up at the very same
11 source; that is, the requirement is no different, the
12 functions are no different, the aging effects are no
13 different, the requirements for functionality are no
14 different.

15 And I would encourage that in GALL you try to
16 spell that out really clearly, if there is a difference, or
17 if there is not a difference. I think you need both.

18 MR. GRIMES: That's a good comment, and it gets
19 back to the observation I made before in terms of the major
20 difference that I see is that there may be elements,
21 particularly for these reactive programs, where the response
22 to the Generic Letter or a response to an information
23 notice, even, is probably more appropriate where those
24 actions aren't going be any different, but now they're going
25 to be folded into the program summary or the feature of the
program that goes into the final safety analysis report for
which future changes would be subjected to a 50.59

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evaluation.

And that gets back to a concern that the industry

1 raised before in terms of to what extent do I get credit for
2 commitment management? And we're trying to make a clear
3 distinction here that there is a difference between
4 commitment management and taking actions to respond to
5 particular plant circumstances, and then a change in the
6 licensing basis.

7 And we're trying to very clearly define what is
8 different about the licensing basis. And that's gotten us
9 into some details as well.

10

11 Other comments or questions? Do you have any
12 examples of other programs that we should -- reactive
13 programs or evolutionary activities that we ought to reflect
14 on when we go back and look at the content of GALL?

15 Either we did a very good job in preparing for
16 this meeting, or we --

17 MR. DAVIS: This is Jim Davis from the staff. The
18 example of Generic Letter 89-13 is something I've worked a
19 lot on. There were a lot of licensees who responded to it,
20 and it's kind of a difficult area to treat. So I do think
21 we need to review it each case.

22 I'll give you an example: The EPA has cleaned up
23 the waters quite a bit in the United States over time. And
24 plants like Haddam Neck have never had a problem and
25 suddenly developed a big problem with MIC. It was basically
in stagnant areas.

AN I'm not sure that that program tells you to look
N at different flow areas within the plant, anything under
RI about three feet per second can develop MIC. And it had a
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1 MIC where they found the problem was in the emergency diesel
2 generators where the water wasn't moving at all.

3 And in order to solve their problem, they had to
4 increase their biocide levels, which violated their state
5 agreement with the state of PA, so they couldn't do that.

6 Sometimes controlling MIC is a very complicated
7 process. It normally requires that you call somebody in
8 that's an expert at it.

9 Another problem that we're running into, and this
10 evolved very quickly, are things like the zebra mussels.
11 They came into the Great Lakes and they've been sighted in
12 California now.

13 And a lot of plants that never had any problem
14 with Zebra mussels are going to have problems, because they
15 do travel and they clog everything up and make a real mess.

16 MR. GRIMES: Other comments or questions? Yes, a
17 comment over here.

18 MR. MENOCA: Tony Menocal, Florida Power and
19 Light. The draft GALL report that I saw, the one section,
20 something that was not clear to me was I saw that the format
21 of the GALL report was based on systems, and then based on
22 component level.

23 Is the aging mechanisms and effects addressed
24 there, internal and external, addressed on a component
25 level, or it looked like a lot of it was based on internal
and then external was maybe addressed elsewhere. I didn't
see the whole layout.

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DR. LEE: Those are component levels. Sometimes
you might not see external because there might not be any

1 aging effects.

2 MR. MENOCAI: Right, in some cases.

3 DR. LEE: Some cases, just external is the
4 environment so there's no aging effect, so you will not see
5 that. But if you believe that there is some aging effect
6 that's missing, you know, by all means, comment.

7 MR. MENOCAI: So the intent then is to address
8 both internal and external for each component?

9 DR. LEE: That's right, for each component or for
10 each system.

11 MR. GRIMES: Dave?

12 MR. LOCHBAUM: I guess an example of a reactive
13 program from the comments that were made this morning were
14 the 50.54f request that went out in October of '96. It
15 seemed to be a reactive program on the categories that
16 should be covered.

17 MR. GRIMES: Yes, to the extent that we expressed
18 a concern about how design basis is being maintained, and
19 that also gets to the comment about we have to explain how
20 that fits, how the whole regulatory process fits into the
21 license renewal decision, specifically. But that gets more
22 to scoping than the aging management programs.

23 Mr. Herman, you want to make a comment?

24 MR. HERMAN: Yes, I was just going to comment on
25 some additional reactive programs that really don't fall in
the category of NRC-mandated programs, but may reflect the
way we're going on some operating issues today, voluntary
AN programs to address some of these reactive issues in lieu of
N regulatory requirements like, for instance, the VIP program
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1 for reactor internals or the MRP, Materials Research Project
2 Program for addressing barrel former bolts.

3 All those would fall into the category of programs
4 for managing aging, and then they may well get credited by
5 licensees if they choose for programs.

6 But similar issues with process for voluntary
7 issues are under review and development right now. And the
8 Commission is asking that we develop a Commission paper to
9 go through the process to ensure stakeholder participation,
10 to ensure everything is done in those programs to let people
11 take a part in the programs.

12 I think they will probably in some cases play as
13 big a part of license renewal as some of these other
14 programs that are based on what I'll say are older NRC
15 requirements.

16 MR. GRIMES: Yes, to clarify the record, the VIP
17 that Bob referred to, as many of you know, is the Vessel
18 Internals Program, but the specific comment as it relates to
19 how do we go about crediting industry initiatives, where
20 evolution is occurring and we expect that certain activities
21 like materials reliability programs are going to go explore
22 some of the questions about extent of aging mechanisms and
23 the need for specific practices to be instituted is somewhat
24 problematic for us because those commitments are attributed
25 to the industry as a whole, as opposed to specific
commitments that we could point to and rely on and say that
we know how they are going to evolve.

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MS. COFFIN: That was the case for steam

1 generators. We don't rely just on tech specs, but we rely
2 very heavily in license renewal space on industry
3 initiatives, NEI 97-06, and all these associated EPRI
4 guidelines.

5 That wasn't a surprise, I don't think, to anybody
6 with the PWR that they would have to commit to all of those
7 extra initiatives. It wasn't an initiative, really, but it
8 definitely went above and beyond current regulatory,
9 stringent regulatory requirements.

10 MR. GRIMES: Any other questions or comments about
11 reactive programs? Mr. Carey?

12 MR. CAREY: John Carey, EPRI. For some of the
13 examples for F&E that are up there, I know you talked about
14 the service water, but could you indicate a couple of other
15 areas where you found existing programs required further
16 evaluation?

17 MS. COFFIN: Probably one of the hardest things
18 when you're an actual tech reviewer and you're reviewing
19 these programs is that you're really having to follow the
20 SRP guidelines, those ten elements that are all listed up
21 there.

22 And in some cases, when you close out a GDL, you
23 haven't gone through those ten elements. So the engineer
24 has to make a connection between -- either has to ask the
25 applicant to make the connection, or has to make the
connection for himself or herself, how the closing out of
the GL addresses the SRP elements.

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And one example that I can give you is for 88-05.
I use that one because I know it very well. When we closed

1 out that GL, we didn't go to every plant and verify every
2 plant's program.

3 We looked at about 10 plants and got a sense,
4 wrote a NUREG, and got a sense -- did sporadic inspections
5 at other plants to follow up on that particular issue, but
6 we came to a reasonable assurance finding.

7 Now translating that NUREG that looks specifically
8 at a couple plants into something that was defensible and
9 scrutable for Calvert and Oconee took some extra steps to
10 make sure we understood completely their program and how it
11 met all of those elements, but the licensee didn't really
12 need to change their program.

13 What I saw most often with these reactive programs
14 was that licensees wanted to expand the applicability of
15 these programs beyond what they were originally intended
16 for, and that was the most common thing that I saw that
17 required review was wanting to take advantage of their heat
18 exchanger performance for a new heat exchanger that came
19 into scope just because of license renewal. It wasn't an
20 original part of the generic letter on heat exchangers, for
21 example.

22 MR. GRIMES: Actually, that is a good point. I
23 think a lot of what we see in the way of program changes is
24 not so much that the program has changed. It's that the
25 aging management has changed, but its scope may change
because now, reflecting on the scope for license renewal,
utilities are going to find that they need to cover things
AN like -- and I will ask Jim Davis to jump in -- didn't the
N RI applicants expand the scope of the bolting program to cover
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1 fasteners and systems or areas that they hadn't addressed
2 before?

3 MR. DAVIS: Actually, I think that that had been
4 addressed in some of the earlier generic letters and
5 bulletins, but basically what occurred is the original
6 standards for bolts said that a lot of them like the 4140s
7 and the high strength steel bolts were a minimum yield
8 strength of 125 ksi, and what we found after awhile was that
9 if you get over 150 ksi you start getting into a stress
10 corrosion problem.

11 When we reviewed the bolting at Calvert Cliffs,
12 they have a large number, a large fraction of their bolting
13 is over 150 ksi and so we asked them to do a review to show
14 that those were safe.

15 They did, and based on operating experience they
16 hadn't seen any failures of those bolts, even though you
17 might expect to see some problems but just based on an
18 experience. But we will keep an eye on that during the
19 future to see if they do start developing a problem but with
20 as many years of operating experience as they have, it
21 doesn't seem likely that all of a sudden they would start
22 cracking.

23 MR. GRIMES: Mr. Walters?

24 MR. WALTERS: Doug Walters, NEI. Just a
25 clarifying question on this point. Does the GALL include
these additional things, or when you looked at a program did
you look at it for the expanded scope or did you stick to
the scope that you thought was applicable to the program?

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MS. COFFIN: For GALL?

1 MR. WALTERS: Yes.

2 MS. COFFIN: I think, well, Sam, you can stop me
3 if I'm wrong, you stuck to what the original intent for the
4 aging management program was, because that might differ from
5 plant to plant how they want to apply their program.

6 DR. LEE: For GALL the way have done it is we took
7 out the generic letter bulletin and used scope and evaluate
8 for the applicants. If an applicant actually uses that
9 program beyond the scope, okay, it is the applicant's
10 responsibility. It is beyond GALL.

11 MR. WALTERS: Yes, let me just make sure. What I
12 am asking though is if Calvert or Oconee did that and you
13 reviewed that, did you factor that in to what is in GALL or
14 did you just cut the scope at whatever the scope was for the
15 generic letter?

16 DR. LEE: I think for GALL we cut it off at
17 whatever the generic letter -- yes.

18 MR. WALTERS: Okay.

19 DR. LEE: But I guess I want to add something.
20 There's one thing about this. We have programs, okay? This
21 is programs to address operating experience. You have seen
22 some aging effects like the control rod drive mechanism is
23 cracked so we have a generic letter, okay? -- so that
24 addresses a particular aging effect on a particular
25 component.

What we find is for the aging management program
when we did the review, those programs would most likely be
AN okay -- of course we already have gone through the exercise.
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RI We found out this component can degrade and this is an
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1 adequate program. The way we solved this, we need more
2 review on a program which is more general, more high level,
3 that covers the whole system, so that is what Jim was
4 talking about, plant specifics. We need to deal with it,
5 but otherwise these are adequate. That's what we found.

6 MR. GRIMES: Mr. Morante.

7 MR. MORANTE: Rich Morante from Brookhaven
8 National Lab. I wanted to point out that in addition to the
9 reactive programs there are certain programs that are
10 defined by Regulatory Guides, such as 1.127 for inspection
11 of water control structures. In our evaluation of what is
12 required for managing aging of Category 1 structures, water
13 control structures were part of that scope, and we did
14 evaluate a program in accordance with that Regulatory Guide
15 for its acceptability for license renewal and that program
16 has been evaluated and basically we have identified that if
17 you follow a program that is meets the requirements of Reg
18 Guide 1.127 then you have a program to adequately manage
19 water control structures, so while it is not a reactive
20 program in the sense that it is mandatory, it is a program
21 that has been defined, guidance has been provided to
22 industry, and we are basically identifying it as an
23 acceptable methodology for managing aging for water control
24 structures.

25 MR. GRIMES: Okay. I would like to take the
opportunity that Rich presents to point out that we always
develop regulatory guidance in the context of -- this one
acceptable way to do something.

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In getting back to a comment that Doug made

1 earlier, we expect that license renewal applications are
2 going to say a little bit more than I do it this way -- with
3 a very terse little program description -- we would expect
4 applicants to say enough about what they are doing in the
5 way of aging management programs to provide substance to a
6 safety evaluation basis, but there may be applicants who
7 want to say, well I am going to do it differently, and to
8 the extent that the industry and the public are interested
9 in a stable, predictable process, the extent of departures
10 is going to make it that much more difficult to achieve
11 stability and predictability if folks are going to start
12 talking about doing things differently rather than doing
13 things the same.

14 That is a part of the balance we want to achieve
15 too. You have comments on what the standards are for the
16 acceptability of a program because you think that those
17 programs are going to be evolving or are going to change or
18 they are going to be a lot of folks that want to do it
19 different, and we would like to get those kinds of comments
20 back from you as you are looking through the GALL report.

21
22 Other comments or questions about reactive
23 programs? Mr. Hermann?

24 MR. HERMANN: I guess just one other comment about
25 perhaps mechanisms. The last item on this program addresses
control rod drive mechanism nozzles. That program may vary
from like vendor type to vendor type. That particular item
probably affects all the PWRs for primary water stress
corrosion cracking, yet similar materials in -- there may be

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1 similar materials with similar concerns that differ from
2 vendor type to vendor type, so I think the mechanisms are
3 listed in GALL, and I am not sure if the scope's in there or
4 not, Sam. Did you have the scope changed for like Alloy-600
5 cracking from vendor type to vendor type? From one unit
6 there is not very much Alloy-600 but in another one there is
7 more.

8 DR. LEE: I am not sure how we addressed it in
9 GALL.

10 MR. HERMANN: Okay.

11 MR. GRIMES: Well, we will go back and look at
12 that. Clearly there are going to be circumstances where we
13 generalize some of these things and if there are going to be
14 vendor differences or plant differences, we want to make
15 sure that those get called out so that we can know where we
16 are going to look for departures from typical practice.

17 Yes, Mr. Bowman? MR. BOWMAN: Marvin Bowman,
18 Constellation Nuclear again.

19 In looking at this list of reactive programs, one
20 thing that strikes me is that some of those already receive
21 substantial attention from the residents and have over a
22 long period of time. For example, the erosion corrosion
23 program -- I know I have seen that numerous times in the
24 inspection reports which we're doing on GALL and laying out
25 the Standard Review Plan.

Have you given thought to looking at how are these
existing programs already being looked at and to what extent
AN can you use that in assessing or addressing the adequacy of
N RI a particular licensee's existing programs?
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1 MR. GRIMES: My reaction to that is a little
2 mixed.

3 On the one hand, I would like to say, yes, we
4 intend on going out broadly and soliciting feedback from the
5 inspection staff as well, but at the same time I know that
6 we don't want to overburden our inspectors and so to the
7 extent that we don't want to overburden our inspectors and
8 so to the extent that we can find an economic way to solicit
9 feedback from the Staff, in particular the inspectors, in
10 terms of what their experience has been, we will attempt to
11 do that as well.

12 We would like the industry to take the first shot
13 at it in terms of trying to collate what you think the
14 experience has been on the relative success of these
15 programs and the extent to which they already establish a
16 stable and predictable means to manage aging effects.

17 MS. COFFIN: Marv, this is sort of a follow-up to
18 your comment.

19 Although these programs are in place and they are
20 working, that doesn't mean that problems don't come up and
21 usually that is an SRP element. That's Element Number 10,
22 Operating Experience, and for example for a boric acid
23 corrosion inspection program we knew that Calvert had a
24 problem with the implementation of this program that led to
25 a corrosion in the ICI flange, and you guys took corrective
action, and to the extent that we know about significant
problems with implementation of one of these programs even
AN though the program's basic structure is in place, if you are
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LE going to follow up on a specific plant event to see how they

1 corrected and accounted for that, some of that gets back
2 into inspection space and them giving us feedback about
3 where we might want to really concentrate asking questions
4 about some of the programs.

5 MR. GRIMES: Yes?

6 MR. MENOCAI: Tony Menocal again, Florida Power &
7 Light. I wanted to ask Stephanie in performing the aging
8 management review process and in demonstrating the adequacy
9 of an existing program, do I understand then that really
10 that demonstration can rely on what your plant specific
11 experience review has shown in terms of whether you have
12 experienced any more -- any failures due to erosion
13 corrosion or basically that is the bottom line is have you
14 caught the erosion corrosion, the aging mechanism early-on
15 and any corrections that you have made to your program to
16 address any weaknesses, is that what it really is that the
17 NRC is looking for?

18 MS. COFFIN: But that is only one of ten elements
19 but operating experience is helpful but not just plant
20 specific but industry-wide. You have to consider if
21 something could happen at your plant that another plant
22 experienced that you have considered that. I think most
23 plants do that. That is part of their regular --

24 MR. MENOCAI: Yes, we would do that in addition to
25 that, but I am thinking in terms of demonstrating the
effectiveness of your own program, I guess, and how you have
applied it.

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I mean many times you find in the industry
problems are because maybe there's been a weakness in

1 somebody else's program or, you know, there's been something
2 unique to the plant, so that's what really I am asking is
3 when you go to demonstrate the adequacy of your program, can
4 you go back and really what I think is you are relying on,
5 hey, how effective has your program been at your site, and
6 does it require any enhancement? Hopefully it doesn't if
7 you are implementing the program well.

8 MS. COFFIN: Do you have a specific question?

9 MR. MENOAL: No, that's all right. I think you
10 have answered it.

11 MS. COFFIN: Okay.

12 MR. GRIMES: The more difficult guidance for
13 either the Staff or the applicants is how do you deal with
14 lack of experience? How far do you have to go to look for
15 experience or problems in order to say that you have
16 convinced yourself that you don't have any applicable
17 experience?

18 When we started on the baffle former barrel
19 bolting or whatever they are called, you know, there was
20 originally a reluctance to take an action because the
21 experience was foreign experience, so the question about
22 operating experience gets to be very complicated when you
23 say, well what do I do if I haven't experienced something
24 but somebody else has? How far do I have to go to look?

25 The general guidance is use your best judgement.

I don't know that we could say much more than that. For
specific programs if there is experience that should be
AN referred to as this is the kind of experience that we
N RI consider credible, then we should put that in the guidance,
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1 use it by illustration.

2 Any other comments or questions about reactive
3 programs? Stephanie, offhand can you think of examples of
4 experience that was germane and not germane as you were
5 going through and doing your reviews?

6 Does anybody have an example of operating
7 experience that they think is going too far afield?

8 MS. COFFIN: Just for the sake of argument, I'll
9 give you one that I got a hard -- I had an argument about,
10 steam generator egg crate supports. And these are secondary
11 structures, and they don't -- and the way that one would
12 read the rule, is that you have to maintain steam generator
13 tube integrity, and that's your pressure boundary function,
14 and that you don't necessarily need to go to secondary
15 support structures.

16 That's the cascading effect that everybody wants
17 to stay away from. What I argued was that in this
18 particular case, you should be considering egg crate
19 supports because there are a lot of credible operating
20 experiences that erosion/corrosion of the egg crate supports
21 does occur in some particular types of steam generators.

22 And so I asked for an aging management program for
23 those particular structures. And so that was one where we
24 argued a little bit about going beyond, was this going
25 beyond the rule, but came to a conclusion.

MR. GRIMES: Mr. Bowman?

MR. BOWMAN: Marvin Bowman, Constellation Nuclear,
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N again. I have an example of a reactive program that in our
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LE case, the Alloy 600 program, we extended to non-pressure

1 boundary components, not so much from a safety standpoint,
2 but from an economic standpoint.

3 And we extended it to the thermal sleeves on the
4 safety injection nozzles, the sleeves themselves, whose
5 primary function is to protect the nozzles from thermal
6 cycles.

7 In that case, the aging management program, we
8 wrestled with, and I think we haven't resolved it yet. But
9 one thought is that in that case, since typically the sleeve
10 has to go away completely before you have any concerns for
11 fatigue loading on those nozzles, an acceptable aging
12 management program may be just to wait until you find pieces
13 of that thermal sleeve in your system.

14 And I think that was the experience in late 70s,
15 early 80s, that brought that issue to the fore at that
16 point.

17 But I think that's an example of a reactive
18 program extended. In our case, we called it a modified
19 existing program. I think we called it a modified existing
20 program, even though in my mind, it's more than enhancement
21 that isn't directly a license renewal commitment.

22 There's a fatigue loading, even though it may be
23 substantial, you have very few cycles, typically. You have
24 a cycle when you go on shutdown cooling, and it's just
25 hopefully only once a cycle.

MR. GRIMES: Mr. Hermann?

MR. HERMANN: Yes, I was just going to mention
AN that there may be instances where there are reactive
N
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LE programs that tie in with what I will call regulatory-based

1 programs like 50.55(a) type programs.

2 For instance, there's work going on now and there
3 has been work in the past at the code developing acceptance
4 standards for wall thinning for erosion/corrosion
5 applications. There was an old code case, N-480, which went
6 by the wayside, but there is a new code case where people
7 have defined a different analytical approach for evaluating
8 wall thinning.

9 Now, the scope of what's under the regulatory
10 program and the safety-related components, the scope of
11 what's in some of the erosion programs that were of interest
12 to the plants, a lot of those applications were
13 balance-of-plant applications.

14 Now, whether or not those evaluation criteria
15 would be the same for both, is probably one of the reasons
16 the code hasn't developed some of those things.

17 So, there are some nuances to this terms of
18 acceptance criteria and how they fit in with the programs.

19 MR. GRIMES: It's really hard to slice and dice
20 the programs and the different parts. They all seem to work
21 together in a synergy.

22 Other comments or questions about reactive
23 programs? Yes, Dave?

24 MR. LOCHBAUM: I have another example. I don't
25 know the number, but I will try to give you the title.
There was one in '88 or '89 on instrument error that seemed
like it would fall into the same category of service.

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MR. GRIMES: Does anybody remember that?

MS. COFFIN: Did that have to do with moisture

1 carryover?

2 MR. LOCHBAUM: Yes. That was part of it, and rust
3 getting in and blocking check valves and whatnot. I think
4 River Bend had some problems here recently.

5 MS. COFFIN: Yes, okay.

6 MR. GRIMES: As I recall, was there a one-time
7 inspection for instrument error?

8 MS. COFFIN: Actually, most plants, for their
9 instrument error, continuously monitor moisture carryover.
10 They have air dryers and they check certain parameters
11 pretty frequently.

12 I don't know if it's an outcome of that particular
13 -- it's got a GL or IN.

14 MR. LOCHBAUM: I thought it was a Generic
15 Letter.

16

17 MS. COFFIN: Yes.

18 MR. LOCHBAUM: 88-12 comes to mind, but I'm not
19 sure. That's a guess, but it was about that timeframe.

20 MR. GRIMES: Other comments or questions on the
21 reactive program? Greg?

22 MR. GURICAN: Greg Gurican at TMI. One thing that
23 comes to mind with regard to reactive programs, I think is
24 perhaps a time limit to the aging analysis issue, and that's
25 the Bulletin 88-05, Thermal Stratification and Striping of
Pressurized Surge Lines.

AN I'm wondering, with regard to this type of issue,
N not only from the standpoint of a reactive program but also
RI like EQ, being a mandated program, if you will, and these
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1 being TLLAs, what is NRC's intent here in terms of how they
2 are treated within the license renewal application? And
3 maybe this is the time for a clarification on the intent of
4 the GALL report. I understand that the GALL report is
5 intended to eventually wind up with a revised NEI 95-10,
6 which will give us the guidance on our license renewal
7 applications.

8 Am I correct there?

9 MR. GRIMES: You're correct to the extent that
10 GALL will revise the standard review plan, and we would
11 expect corresponding changes to NEI.

12 MR. GURICAN: Changes to NEI, okay. So you're
13 using this as internal guidance for acceptance criteria. I
14 was glad to hear that the guidance document is not going to
15 be issued as requirements as such, and especially with
16 regard to the ten attributes.

17 However, if a licensee comes in with their license
18 application and they are addressing certain issues, either
19 reactive or mandated programs under time-limited aging
20 analyses, how are you -- what is your expectation in terms
21 of the attributes of what you expect to see?

22 Or is there some other intent that I'm missing
23 here in terms of both the GALL report and the SRP for
24 license renewal applications?

25 DR. LEE: I guess that on the GALL report, when we
come to TLAA, there are three options on the TLAA that makes
it kind of interesting.

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One is that you can show that TLAA is already
adequate for 60 years. The second option is that you ensure

1 that the time limit of the aging analysis has been extended
2 to 60.

3 And then the third option is, you going to aging
4 management option. The way we have done it is that if you
5 are actually going into the aging management program option,
6 then we'll use the ten elements.

7 But we actually do the analysis and say that I
8 extended the analysis to 60 years, then we do not use the
9 ten elements, we actually go look at your analysis, see if
10 the analysis is actually valid to 60, or we have to set the
11 analysis already to 60, then we look into that.

12 MR. GRIMES: I think I mentioned before that one
13 thing that I have considered for future rulemaking is since
14 the first two categories, the time limit and aging analysis
15 are currently covered by the inspection activities, that is,
16 if the analysis already exists or if the analysis is being
17 revised, then we can go inspect those things.

18 So we're going to concentrate on how are time
19 limit and aging analysis managed? And that's where we
20 wanted to develop our experience.

21 And we're in the throws right now of trying to
22 establish guidelines on acceptable fatigue management
23 programs, and how do fatigue management programs deal with
24 decision criteria in those areas where there is still some
25 controversy and debate about how to incorporate
environmental effects on the number of fatigue cycles.

AN That's an issue that's growing out of Generic
N Safety Issue 190, which was just broached with the Advisory
RI Committee on Reactor Safeguards this past week.
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1 So, for the purpose of GALL, I would say that
2 we're going to concentrate on looking at management programs
3 as opposed to what are the attributes or the results.
4 Because it's the programs that we're most interested in that
5 are going to produce those results.

6 Other comments or questions about reactive
7 programs?

8 Does anyone have any examples of other reactive
9 programs that should be specifically considered when we're
10 reviewing GALL? Give us a head start before you write them
11 down later.

12 [Laughter.]

13 MR. GRIMES: Any other questions or comments.

14 Yes, Mr. Carey?

15 MR. CAREY: John Carey from EPRI. I have a couple
16 of comments: One, Greg Gurican mentioned 88-08, and I
17 believe that's thermal stratification, and that's BWR ICS.
18 MRP has a pretty substantial program looking at that issue.

19 I don't believe that thermal stratification in
20 attached piping, unsteady thermal stratification is really
21 an aging issues, and that's the first point.

22 They're usually an unanticipated transient.

23 The second point is related to fatigue and the
24 issue of environmental effects. The NRC is citing thermal
25 stratification cracking events as a basis to say that
operating experience is showing that as plants get older,
there is more cracking.

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 I don't think that data is valid, the 13
datapoints. I don't think thermal stratification events,

1 cracking events, probably don't have any significant
2 environmental effects or influence on those cracking events.

3 So I think there is a problem with respect to
4 that.

5 MR. GRIMES: Thank you. I'll share your views
6 with those that have to decide how to deal with that issue.
7 In the meantime, we still have to make judgments about how
8 these programs are going to manage the aging effects.

9 There is going to continue to be controversy on
10 what experience is applicable and which isn't, what needs to
11 be managed and what doesn't.

12 And I would encourage you to point out those
13 areas, point out those controversies and make sure that
14 we're aware that the controversies exist.

15 Other comments or questions? Should we move on to
16 the next agenda item? The next agenda item is going to be
17 general practice programs. Chip Vora is going to lead this
18 discussion.

19 MR. VORA: Thank you Chris, and good afternoon,
20 ladies and gentlemen. Now, this morning, we talked about
21 the examples of the rehabilitative programs where the
22 credits could be given for managing effectively, the aging
23 during the period of renewed license.

24 And this afternoon, we talked about the reactive
25 programs for which the credits for the existing programs
actually could be given for the renewed license
consideration.

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And what I would like to discuss in this
particular segment of the program, is the general practice

1 program. I have been involved in the aging program since
2 1982, and my observation today is that we have over 40 years
3 of design experience, we have over 25 years of operating
4 experience that includes many, many general practice
5 programs.

6 We talk about inspections, surveillance, condition
7 monitoring, maintenance, recordkeeping, trending of the
8 condition indicator parameters associated with structures
9 and components.

10 We do replacement, refurbishment; we have general
11 maintenance, and we also do the environmental modification.

12 So there are many of these programs which the
13 plant operators have implemented and could be actually
14 credited to a general practice program.

15 And the question is how do we put our arms around
16 this kind of a general practice program which actually have
17 a good tracker code and we are able to achieve success in
18 maintaining the safety of the operating nuclear power plants
19 and how we can go about giving the credit to these programs
20 for managing effectively aging during the renewed license
21 period.

22 For following discussions the general practice
23 programs are the routine maintenance, industry or equipment
24 vendor recommended activities and other programs, and these
25 are just a few of the examples that talk about the
preventive maintenance, water chemistry control, and crane
inspection.

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Now as a facilitator for our discussion this
afternoon on general practice programs, we are seeking your

1 input related to these programs to share your experience
2 with us and tell us where the credits for the existing
3 general practice programs to manage detrimental effects of
4 aging should be recognized and also let us discuss areas
5 where existing general practice programs should be augmented
6 so we all have the confidence that indeed these programs are
7 effective to manage age-related degradation during the
8 current license period but also for the extended life
9 consideration.

10 The example we cited here, lack of preventive
11 maintenance, I had the opportunity to work with EPRI
12 technical people to develop some of the common aging
13 terminology in the context of managing aging, and since we
14 have selected the topic of preventive maintenance I thought
15 it might be good for our discussion. The preventive
16 maintenance action is that it detects, precludes or
17 mitigates degradation of a functional structure or component
18 to sustain or extend the useful life by controlling
19 degradation and failures to an acceptable level.

20 There are three types of preventive maintenance
21 activities. We do the periodic preventive maintenance,
22 predictive or planned maintenance. In the context of
23 today's discussion what we are talking about in general are
24 those preventive maintenance activities voluntarily
25 initiated by the licensee to maintain equipment and to look
after the long-term performance of the passive structures
and components and the long-term operability of these

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components.

Many of these activities meet the requirements of

1 an aging management program because they were specifically
2 developed to address aging effects, for example, corrosion.

3 The preventive maintenance programs vary widely
4 from plant to plant. If the Staff expects to review the
5 individual programs on a case by case basis, experience with
6 Calvert Cliffs and Oconee indicate that only minor
7 modifications are required to enhance the programs to meet
8 the Staff expectations described in the Standard Review Plan

9 Another example of preventive maintenance would be
10 water chemistry control. The objective here is to control
11 the different water chemistry parameters including ingress
12 of corrosive impurities such as chloride, sulfides and
13 fluorides. The resulting action would prevent corrosion
14 damage to the components and structures exposed to the water
15 in the primary secondary component cooling and service water
16 systems. The program for primary and secondary water are
17 based on the guidelines developed by EPRI.

18 The experience with Calvert Cliffs and Oconee
19 indicate that continued implementation of the EPRI
20 guidelines as an element of aging management programs
21 involving water chemistry provides reasonable assurance
22 consistent with the current licensing basis for the period
23 of extended operation.

24 The third example we provided is about the
25 inspection based on the industry standards for the crane
inspection. The national consensus on industry standards
provide a tool for inspection and guidelines and practices
AN useful for managing aging in structures and components
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LE directly or indirectly, and again experience with Calvert

1 Cliffs and Oconee indicate that continued implementation of
2 the crane inspection process is a part of the overall aging
3 management program providing reasonable assurance that aging
4 effects will be managed consistent with the current
5 licensing basis for the period of extended operation.

6 These are just three examples of what we call
7 actually the examples of the general practice program, and
8 as I cited earlier, we are talking about understanding aging
9 and managing aging through an effective aging management
10 program which also includes what about the walkdown, what
11 about monitoring the operating environment, what about the
12 those experiences of the 30 or 40 years of people who have
13 worked on structures and components to bring this into our
14 operating program?

15 How do we put our arms around and how can we give
16 the credit to those programs as a part of the aging
17 management for a new license period and how we, the Staff,
18 can consider some of this experience which you have over the
19 last 30 years -- we can factor into the develop of the GALL
20 report.

21 I think with this request I would like to open the
22 thing up for discussion. Please give your inputs and ideas.
23 what about the walkdown? An individual actually has worked
24 for 25-30 years on a component. Actually he can walk down,
25 he can feel it, can actually sense it. You can actually do
the walkdown and monitor the conditions of the cable
terminations at the end where they are collected to
electrical equipment.

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What about the monitoring of the environment and

1 temperature and radiation and how we address those things so
2 we can manage aging for the current license term for the
3 extended life.

4 So please give us -- share your examples like
5 these, your experience, which we can then evaluate and
6 consider for part of the GALL report on managing aging
7 during the renewed license period, which will give us the
8 confidence that these structures and components are okay
9 when you go from 40 to 60 years.

10 Any examples?

11 [No response.]

12 MR. GRIMES: Any comments?

13 MR. MENOCA: Chris?

14 MR. GRIMES: Yes.

15 MR. MENOCA: I have a question. This is Tony
16 Menocal, Florida Power & Light.

17 In the draft section of the GALL report which I
18 reviewed which had to do with secondary plant systems there
19 were some recommendations for one-time inspections to
20 validate the chemistry control program for certain systems.

21 I wanted to get an understanding as to, I believe
22 it was to address crevice or some corrosion mechanism. I
23 don't remember exactly which one, but I wanted to have an
24 understanding as to what the basis for that recommendation
25 is, when it would apply, and why we would need to do that in
light of everything that was said there.

 MR. PARCZEWSKI: Chris Parczewski from NRR,
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N Material Engineering Section.

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LE You are talking about the crevice corrosion.

1 Crevice corrosion is controlled by chloride mainly, so the
2 fact, in order to control crevice corrosion in stainless
3 steel you would have to control the concentration of
4 chloride in water, chloride and secondarily it's oxygen, so
5 the program which we recommended, which we included is to
6 control those two parameters in the water, in the primary
7 water where you have stainless steel components.

8 MR. MENOCAI: So as long as you are controlling
9 the parameters the one-time inspection is not something that
10 is required across the board?

11 MR. PARCZEWSKI: Well, as I said, we have
12 different what we call action levels, which means action is
13 depending on the amount of these impurities.

14 If you have a relatively small amount you have to
15 bring it back to the normal chemistry. If, however, it is
16 considerably more, you would have to do more including shut
17 down the plant if it really gets into the area where it
18 endangers the integrity of the boundary control.

19 MR. GRIMES: Stephanie, perhaps you would like to
20 comment on one-time inspection.

21 MS. COFFIN: What you see in the GALL with respect
22 to the one-time inspections is something that we learned
23 from both Calvert and Oconee, who both proposed one-time
24 inspections. Even though they have a chemistry control
25 program that is in place and is rigorous and has been
AN working well for a number of years, there are in some
N systems they identified portions that may be stagnant, may
RI be some dead leg portions where you really cannot rely on
LE your chemistry controls because they are not continuously

1 being refreshed or what have you.

2 In those very specific portions of some of their
3 systems they identified a need for one-time inspections to
4 substantiate that their chemistry control portions work even
5 in these somewhat -- I am not quite sure what the right word
6 is -- but in some of these portions where chemistry controls
7 may not be what you are actually monitoring as part of that
8 program.

9 The reason we also sort of went -- they took an
10 extra step in their chemistry control program that because
11 they had never really documented, although they have been
12 taking apart valves and other components for years, they
13 have never actually documented, hey, look the inside of
14 these internals look good so our chemistry controls do work.
15 Instead of spending a lot of resources -- this was their
16 decision to make -- a lot of resources to prove the
17 negative, I think we talked about it last week at the ACRS
18 meeting, they decide to go in and do some sampling and
19 looking in the places, areas, systems that they thought
20 would be most susceptible to crevice or pitting and just
21 take one look to verify their assumptions.

22 DR. LEE: This is Sam Lee. This action that they
23 are calling for you see on the steam and power conversion
24 system. A lot of this is non-code craft piping. This is
25 carbon steel piping and usually there is not much inspection
going on and this is different than Chris mentioned. He is
talking about stainless steel. This is basically carbon
AN steel components and Stephanie was talking about, you know,
N RI this system has chemistry control. However, you cannot rule
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1 out corrosion or crevice corrosion and since you are not
2 being inspected, this kind of components, so the GALL report
3 identified there might be a need to do some inspection, to
4 at least verify that your chemistry control is adequate.

5 MR. MENOCAI: Thank you.

6 MR. GRIMES: I think in a general way there is an
7 expectation that if you can't demonstrate that you don't
8 need to manage an aging effect but you don't think it's
9 occurring then a one-time inspection to verify that an aging
10 effect doesn't need to be managed is a reasonable action to
11 take. Mr. Colaianni, did you want to make a comment?

12 MR. COLAIANNI: Paul Colaianni, Duke Power.

13 My comment basically on this whole area is what I
14 would hope it wouldn't get into is regulating routine
15 maintenance. There's a lot of activities that are done on
16 equipment that I would consider routine maintenance things
17 that are done, performed, that are considered good practice
18 by the industry on maintaining equipment, but now they may
19 be seen as indirectly, and I will borrow that word from what
20 Mr. Vora has told us, indirectly it may affect some aging
21 aspect or some aging effect related to that equipment.

22 We're talking about then introducing regulation
23 into almost every aspect of the plant and I would like to
24 see some hold on that sort of creep into the routine
25 maintenance end of the plant.

That is just a concern I have.

MR. GRIMES: Yes, I think that is a general
AN concern of all utilities and gets back to to what extent do
N RI the commitments on these practices, how far does the
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1 commitment have to extend before a regulatory control is
2 imposed on a practice, to what extent do we rely on things
3 like walkdowns. I know there's walkdowns conducted on a
4 daily basis or a weekly basis or a quarterly basis and do I
5 have to apply for a license amendment if I am going to
6 change the frequency of how often the system engineer checks
7 a particular aspect of the plant, so that is an important
8 thing to keep in mind when we are trying to establish the
9 program attributes -- to what degree, to what level of
10 detail.

11 MR. RYCYNA: John Rycyna, Constellation Nuclear
12 Services. I wanted to address Tony's comment about one-time
13 inspections, what at Calvert Cliffs we call age related
14 degradation inspection programs, that follow up on what
15 Stephanie said about not spending resources to prove -- when
16 expected in the future, you're going to be doing some work
17 and doing some inspection and getting actually positive
18 operating experience.

19 I'll give an example of this: for an air system,
20 shortly before we completed the agent management review for
21 the instrument air system, we placed some piping by safety
22 related air compressors, which didn't have dryers installed
23 in them. The interior of the piping was virtually some
24 small rust -- rust particle specks, essentially. Based on
25 that, we looked at the inside of the instrument air piping.
 It's not corroding. We decided that rather than committing
 to an age related degradation inspection program, since we
AN had seen inside of the piping, that what we considered to be
N the worst portion of the system, just credit the program to
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1 check the due point of the system regularly, keep the air
2 dryer tank up; and some other systems, where we didn't have
3 that type of positive operating experience, we're committed
4 to do the age related degradation inspection.

5 What I would recommend, if you're a couple of
6 years off in submitting the license renewal application for
7 a particular plant, is that you take the opportunities when
8 you're doing maintenance to actually take a look at the
9 inside of your system, document positive results you have.
10 Typically, nuclear plants document negative things. So, if
11 you document positive things, you, then, have some positive
12 operating experience you can put on the application.

13 MR. GRIMES: Thank you, very much. Mr. Hermann?

14 MR. HERMANN: Yeah, Bob Hermann of the staff. I
15 guess, you know, some of these programs are dependent on
16 what their application is. For instance, with the water
17 chemistry programs, if the water chemistry programs are
18 applied to, say, chlorination for controlling -- in a
19 secondary part of the plant, that may or may not have much
20 verification, other than maybe the generic letter on flow
21 blockage and a walk down for -- a walk down for leakage, as
22 part of the Section III program; where another water
23 chemistry type program in a plant may be something that's
24 the basis for establishing crack growth rates or at least
25 lends to a bounding situation for crack growth rates, say,
for a primary system.

 So, I think the answer to these are: it depends
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N how it's being used and what it's credited for; whether it's
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LE a safety-related application; whether it's something in

1 balance of plant that somebody is looking at. It may not be
2 all that cut and dry, in some cases.

3 MR. GRIMES: Other comments?

4 [No response.]

5 MR. GRIMES: Other examples of general practice
6 programs that ought to be addressed in GALL?

7 [No response.]

8 MR. GRIMES: Anybody define preventive maintenance
9 in 25 words or less?

10 [No response.]

11 MR. COLAIANNI: Or distinguish preventive
12 maintenance from routine maintenance.

13 MR. GRIMES: Another good question. Mr. Hermann?

14 MR. HERMANN: I think in Section 11, at least for
15 a lot of mechanical components, in terms of what constitutes
16 a repair replacement actively and what constitute a
17 replacement activity -- I mean, a maintenance activity,
18 there are definitions in Section 11 for mechanical
19 components, things that are class one, two, and three
20 components, for what's a repair activity and what's a
21 maintenance activity.

22 MR. GRIMES: Thank you. Other comments or
23 questions? Mr. Bowman?

24 MR. BOWMAN: Marvin Bowman, Constellation Nuclear,
25 again. I think we share Mr. Colaianni's concern with how
far do we get into dragging team maintenance into regulatory
space and, again, depends on how you define regulatory
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LE space. We have some of the same concerns. And a couple of
examples that I can give relate, for example, to electrical

1 panels.

2 We have lots of electrical panels throughout the
3 plant that contain internal blocks and the causal aging
4 effects that we've found for many of these was basically
5 corrosion of the panel or the anchorages and electrical
6 stresses on the terminal blocks. And the approach that we
7 end up taking will depend on how firmly this does get put
8 into detail, into our FSAR.

9 For example, a routine PM walk around, and it
10 would be easy to do for the system engineer require no
11 tagging. They can just open it up and look inside is one
12 thing. Sort of a task that involves, for example, your DC
13 bus for some of your major electrical busses that are
14 personnel safety issues, when you open them up, they have
15 lots of concerns. You have -- in some cases, you are in a
16 potential dual unit shutdown, depending on what you're doing
17 and so forth.

18 Where it becomes complicated to credit an existing
19 preventive maintenance task, because of the regulatory
20 burden, instead of crediting a preventive maintenance task,
21 we would likely create a new task that's unique to license
22 renewal space, because it would just be too complicated to
23 make routine changes or it may become too complicated to
24 make routine changes that you can currently make when you do
25 a routine preventive maintenance task. So, that would be
the case, for example, for simple panels, where it's a
complicated activity involving tagging and coordination and
so forth. Like for inspecting a major DC bus, that would be
a case where you don't do it very often anyway and would be

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1 inclined to leave that -- continue to credit that activity,
2 instead of creating a whole new activity; put a little bit
3 more regulatory constraint on that activity.

4 But, I share the concern of how far do we get into
5 regulatory constraint on maintenance, on routine
6 maintenance, in particular.

7 MR. GRIMES: Other comments about -- concerns
8 about regulatory commitment? You know, it's one thing to
9 say that we want to take credit for performing inspection
10 activities; but then when the regulator starts poking
11 around, in terms of, well, how do you do it and how often do
12 you do it and who does it and are they qualified to do it
13 and how do they know what they're looking for, that tends to
14 dissuade folks from making commitments to go look for
15 things, doesn't it? But on the other hand, how do you
16 expect us to defend that that's an effective way to manage
17 aging, if we don't know the answers to some of those
18 questions? Mr. Bowman?

19 MR. BOWMAN: I don't think it dissuades you from
20 looking. I think what it does is it persuades you to look
21 twice instead of once:once in routine space at a fairly
22 frequent basis for good maintenance reasons; and once at a
23 fairly infrequent interval for license renewal aging
24 specific constraints, because many times you're doing these
25 preventive maintenance tasks for reasons that are not
related to aging, that you're looking for at all. The PM
task provides the opportunity to look. You end up looking
twice, as opposed to looking once.

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MR. GRIMES: It sounds pretty inefficient. Other

1 comments? Or maybe we could say that that sort of falls in
2 the treatment -- falls in the area or risk informing
3 regulation by differentiating treatment for regulatory
4 control.

5 Yes, a comment?

6 MR. MINIKOFF; Tony Minikoff for ERPA & Light. I
7 had one more question on the draft GALL report. I believe
8 it was an auxiliary feed water system and noticed that, I
9 think, pump IST for the pump casing, I believe the IST
10 program was referenced there. And I just want clarification
11 whether that was just for looking for external leakage, when
12 you're performing the pump test, to give you, again, another
13 means of monitoring performance of the equipment and looking
14 for passive failures.

15 MR. LEE: I think in that case, if you do your IST
16 test and then you discern performance criteria, you might
17 need to open up your pump and look inside to maintenance.
18 And that's what we meant, I think, that you actually look
19 inside to look for certain degradation past your boundary.

20 MR. MINIKOFF: So, if it didn't pass -- you're
21 saying -- because, I mean, distinguishing active from
22 passive, normally, I wouldn't associate that test with
23 passive -- performance of the passive equipment.

24 MR. LEE: We expect to run you through the IST
25 problem first, so you have opening up the pump for the --

MR. MINIKOFF: Okay.

MR. LEE: -- just the performance first and then,
AN by that time, then you can look inside and look for passive
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LE boundary degradation.

1 MR. MINIKOFF: Okay.

2 MR. GRIMES: Other comments or questions? Yes,
3 sir?

4 MR. SANWARALLA: This is Mansoor Sanwaralla from
5 Sargent Lundy. The question I have is for Chris. You've
6 got some programs in the plant, like temperature monitoring
7 program, and if you decry for the program to extend the life
8 for some of these components, how would you go back and
9 monitor these programs? Because, they're not part of a
10 reactor program. They're not part of any degradation
11 program. They'll be part of general practice programs.
12 But, we do think if we do go back and take credit for these
13 programs, under what category would these programs fall
14 under?

15 MR. GRIMES: My general reaction is if you're
16 going to credit them and we're going to rely on that credit
17 to demonstrate aging effects, they're going to become
18 regulated programs; maybe not by regulation, but at least
19 they're going to be incorporated into the licensing basis.
20 And several of these comments have expressed concern about
21 to what extent the commitment ends up constituting a level
22 of detail that is going to require a change in the licensing
23 basis, if you change the practice.

24 MR. SANWARALLA: I mean, that's where he's going.
25 If you go back and take credit for some of these programs,
they now become regulated programs. You're saying that if
you do not it to become a regulatory program, you cannot
take credit for those programs.

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MR. GRIMES: Well, that's the balance that we're

1 going to try to achieve. Do you need to take credit for it,
2 in order to demonstrate that you can manage the aging effect
3 and to what extent do you not have to rely on particular
4 practices, so that you can avoid having to have a regulatory
5 control. That's at the heart of this issue, how do you go
6 far enough, but not too far; what is both necessary for
7 maintaining a plant condition and sufficient, at the same
8 time.

9 Did you have other questions? Other examples?

10 MR. VERA: If somebody could do well, actually, on
11 the one hand, we would like to get the credit for this
12 program; on the other hand, you know, we have a concern
13 about -- concern about the regulatory program. The question
14 is: how do we balance it; how can you get the credit and
15 still be not afraid of getting them to be a regulated
16 program? I think that's a very good question for everybody
17 to think about, any inputs there.

18 And what about the monitoring the environment or
19 were you talking about that we do a good record keeping
20 intending of this condition, indicate parameters associated
21 with structures and component? And if we have a good record
22 keeping program, which demonstrates that this condition
23 indicate that parameters are still in very good shape, as
24 they were in year 10, 20, 30, 40, and then give us
25 confidence for 60 years. How do we go about giving credit
for that kind of program?

AN I think there are many programs. The question is
N that we know good programs, effective programs to manage
RI aging. We like to get the credit about it; but when you
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1 talk about in the regulatory arena, it becomes part of
2 current licensing, basically. Now, what do we do? I think
3 that's the question.

4 MR. GRIMES: And for this purpose, we want to make
5 clear that we're talking about trying to focus on the extent
6 to which the existing programs and practices associated with
7 the current licensing basis are going to be augmented, so
8 that the Commission can conclude that the granting of a
9 renewed license for a 60-year term is justified, and then to
10 have the licensee accountable for maintaining that new
11 licensing basis with its incremental change. And the
12 instruction we got from the Commission is: and what's the
13 right increment; how much more needs to be recorded,
14 documented, and justified, as adequate for managing aging
15 for the purpose of granting a 60-year license?

16 Other comments? Other questions?

17 MR. SILVER: This is Dominic So from AEP. One of
18 the main thing is -- after all this discussion, there's
19 still a question mark in my mind, and that is we discussed
20 earlier the examples of in-service inspection, in-service
21 testing, okay. Those programs, typically, we are looking
22 for degradation of the equipment, okay. So, here we are
23 trying to determine how extent, how much additional we have
24 to do, in order to demonstrate this aging issue. That is
25 the one single biggest question in my mind, that is how --
like you mentioned, how extent, how additional do we have to
do? And we certainly hope that may be when the GALL report
comes out, there are certain guidance, in that respect.

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MR. GRIMES: Well, that's actually -- that's our

1 question, too. We would like you to tell us.

2 [Laughter.]

3 MR. SO: I mean, if all of us are here, instead of
4 going around and discuss some of the issues, maybe the focus
5 maybe should be, well, how extent should it be; what
6 additional should we be doing?

7 MR. GRIMES: That is the point. That is the
8 purpose that we will go through in the exercise of asking
9 you to review and comment on GALL. We've tried to catalogue
10 all of the programs that we think would be relied on to
11 manage aging effects for just some structures and
12 components, in the scope of license renewal, and to identify
13 the attributes of those programs and where we don't think
14 that the programs are complete, with respect to managing
15 aging. We've identified where our areas of further review
16 are warranted. We want you to decide whether or not you
17 agree or disagree with that assessment.

18 Do you think that the program attributes have been
19 properly characterized? Is that an expectation that you, as
20 a -- those of you who are plant operators and anticipating
21 seeking license renewal, are you prepared to live up to that
22 expectation or do you think that expectation has been set
23 too high or has it been set too low, because we haven't
24 identified areas where those may need to be augmented, to
25 assure that they're going to effectively manage aging
effects?

AN MR. SO: So, maybe you turn around and describe it
N slightly differently. If we say, periodically, on a regular
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LE basis, we can demonstrate it, there's no degradation of

1 certain pumps and valves, and through doing a VT2
2 examination, that we did not see any leakage of your class
3 one system, so based on that, we have reasonable assurance
4 that our equipment are adequate; that it will last longer
5 than 40 years. So, maybe that's something that we would
6 like to see concurrence, in that respect.

7 MR. GRIMES: And I think that describes it very
8 well. Where are you going to do the VT2?

9 MR. SO: We'll continue to do the VT2 per the
10 Section 11 requirement.

11 MR. GRIMES: Well, that covers pressure boundary
12 for some stuff. Winston?

13 MR. LIU: Winston Liu, license renewal. With
14 regard to the regulations versus a program, 10 CFR 5055(a)
15 enforces IWE, IWEL, as effective inspection programs.
16 However, 55(a), also, says, in addition to those
17 requirements, we have additional requirement. For example,
18 when you use IWE, IWEL, we have no problem for accepting
19 that. But, we want further, that you need to inspect or
20 evaluate components associated with the accessible area.
21 This is an example, that, also, we consider IWW, IWEL are
22 effective programs; but we need more, in addition to that.

23 MR. GRIMES: Jim -- oh, I'm sorry, Paul?

24 MR. COLAIANNI: Paul Colaianni, Duke Power. I
25 just want to make one additional comment. Basically, what
we found was that there are very -- it's not an activity of
actually forming new programs, in most cases. It's the
activity of adding new regulatory documentation to exiting
activity. There are very few things that we found at Oconee

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1 that we actually needed to institute that we weren't doing
2 before. But, it's adding a regulatory documentation
3 framework around existing activities. And that's why we
4 would like to draw the line against, because that's what
5 drives up cost.

6 MR. GRIMES: Yeah. As a matter of fact, John
7 Rycyna mentioned before that in a number of these cases,
8 it's not so much that you change a behavior, in order to
9 demonstrate aging as being managed, as much as it is you
10 create a record. You can make -- provide a demonstrable
11 record that shows how aging is being managed. And that
12 provides a part of the regulatory basis upon which we
13 maintain reasonable assurance findings. And that's not much
14 different than just the underlying concept of the overall
15 inspection program; not necessarily the NRC's inspection
16 program, but the inspection program that plant operators
17 rely on, in order to have confidence that the machine is
18 being maintained the way it needs to be maintained.

19 And some of those inspection activities constitute
20 financial commitments that utilities make. In order to make
21 sure that their investment is being maintained properly,
22 they're going to pay for the privilege of keeping a record
23 of the condition of the plant, in order to know how to
24 invest their finances. For our purpose, we're talking about
25 the investment of producing a record on how the plant is
being maintained, in order to provide the regulatory basis
for a reasonable assurance finding. And I think that there
AN are very close parallels. All you've go to do is, instead
N RI of thinking about, well, what is it that the NRC wants,
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1 what's that beanie counter upstairs going to demand that I
2 use to demonstrate that we're going to spend more money on a
3 plant maintenance activity. There are comparable
4 motivations.

5 Other comments or questions?

6 [No comment.]

7 MR. GRIMES: Shall we take a break? We'll break
8 until -- let's say a quarter after 3:00.

9 [Recess.]

10 MR. GRIMES: It sounds like the decibel level has
11 now reached a plateau, where it would be appropriate for us
12 to reconvene. This is the point on the agenda, where we
13 identify the general session of participant comments and
14 questions. Are there any other comments or questions? Are
15 there any areas related to this subject that we haven't
16 covered, that you think we should cover or that we should,
17 at least, address in the context of developing feedback on
18 future improvements for generic aging lessons learned? Mr.
19 Colaianni?

20 MR. COLAIANNI: Paul Colaianni, Duke Power. One
21 question I had, and it may be answered -- I haven't seen the
22 whole document yet or read through it -- but, I would be
23 interested to know that it's claimed that what's in the GALL
24 report would be, using Duke's terminology, all the potential
25 aging effects for a component and that the plant specific
applicants could show that some of these or all of these may
not be applicable at that plant; or even that some of the
AN components, to which the GALL report addresses, would fall
N RI out of the license mode process, because failures of them
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1 would be hypothetical. Is that sort of discussion evident
2 in the front matter?

3 MR. GRIMES: Probably not, because we've
4 concentrated GALL on identifying aging management programs
5 for specific aging effects related to specific components or
6 groups of components. As I mentioned before, I want to
7 emphasize that there are other aspects of the standard
8 review plan that get to questions about scoping or guidance
9 to the staff on the treatment of applicability, intended
10 function, and that sort of thing. And you can expect that
11 we will continue to pursue those, as it relates to
12 responding to specific license renewal issues and developing
13 guidance on those questions.

14 Sam, you want to add anything to that?

15 MR. LEE: Yes. The way GALL is set up, we
16 identify the structures and components first. It does not
17 mean that every applicant would have those structures and
18 components in the scope. But, this is our best guess, based
19 on looking at the Calvert Cliffs and Oconee application and
20 the rule definition of what's the scope. This is our best
21 guess. Okay.

22 And another thing is the aging effect. This is
23 what we feel is reasonable expected to be applicable for
24 those components. So, if you see some aging effect in GALL
25 report, you don't think it is very applicable; please
comment, okay, otherwise, then, you know, the burden is on
you to testify why it doesn't apply to your plant.

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Another thing is that the way the GALL report is
structured, it talks about the -- it describes the program.

1 I guess if Jack Strosneider, he sit here and said this is a
2 box -- this draws a box around the program, so one day when
3 you look at -- make sure the box is appropriate. If the box
4 is drawn too big or too narrow, okay -- for an applicant to
5 use the GALL report information, they have to say that the
6 GALL report applies to their plant. If the box is not
7 appropriate for your plant, you cannot reference GALL, okay.

8 And, also, according to the evaluation part, you
9 go for an evaluation. And, also, in that area, that
10 evaluation has to apply to your plant. So, if you see
11 something in there that, you know, doesn't quite make sense
12 or you have other information they can provide to improve
13 the document, please, you know, comment, because that's the
14 way we can make these document -- you know, that's useful on
15 both sides. If it comes in and, you know, nobody fits in
16 the box in GALL, then we just wasted our time and resources,
17 okay.

18 MR. GRIMES: Other comments or questions? Mr.
19 Walters?

20 MR. WALTERS: Doug Walters, NEI. Just a quick
21 question. In Chapter 7, I guess, the electrical section,
22 you evaluated EQ and that is a TLAA. Are other TLAAs
23 evaluated in GALL or was that the only one? Because, I
24 think that's a little unique and that it's, also, an agent
25 management.

MR. LEE: Yes. The TLAA in GALL is not treated
the same way for all TLAAs. Some of these, we had to go in
AN the agent management section for EQ. You actually see an
N
RI agent management discussion and you, also, see some
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1 discussion on the analysis part. And when you come to like
2 fatigue, basically, we just say it's TLAA and we kind of
3 walk away from that, okay. Like for contaminant, that's a
4 TLAA, I think we have more specific information in GALL,
5 okay. So, right now, it's not very uniform.

6 MR. COLAIANNI: This is Paul Colaianni. Is the
7 intent to get it uniform? I mean, eventually, you would
8 have all TLAA's in the GALL report?

9 MR. LEE: Yes, that's the intent. And, also,
10 that's -- the problem with fatigue is because of GSI-190,
11 okay. So, we have GSI-190. So the best way is just to step
12 back and say TLAA, this is due to GSI-190. It will fall
13 into place; it will fall into place.

14 MR. COLAIANNI: Well, this is a follow-up. I
15 mean, essentially, you've to an unending story for EQ and
16 GSI-168. We don't know the end result of that, as you
17 stated in the GALL report. Why wouldn't you just do the
18 same thing for fatigue, giving the story as it is today, and
19 that there is no end point right now, whatever the end point
20 is?

21 MR. GRIMES: I'll take a shot at that. For
22 GSI-168, we looked at how the program attributes will deal
23 with emerging issues and decision criteria and we felt that
24 the process provided for a way to treat emerging issues and
25 decision criteria. The issue with GSI-190 is whether or not
the decision criteria are appropriate; do they adequately
reflect environmental effects, and that's at the heart of
the controversy about fatigue. And we expect that there
will be similar questions that come up on other areas, where

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1 -- if there's any question about the decision criteria
2 that's going to act on new information as it evolves, that
3 would be an area that we would expect to see some further
4 evaluation or some elaboration of the process description.
5 But, obviously, those are the two that everybody knows
6 about, because they're both, you know, ongoing research
7 activities, at this point.

8 There is a similar question that involves reactor
9 vessels internals, because of the evolutionary state of
10 information about reactor vessels internals and the ongoing
11 industry initiatives in that area.

12 Other comments or questions? Paul?

13 MR. COLAIANNI: Paul, Duke Power. I had a comment
14 on some of the -- just in program description. I don't know
15 if it's widespread, because I didn't read a lot of the
16 mechanical sections; but, specifically, in the ground
17 conductor section, there are statements in there that say no
18 general accepted method to monitor the integrity of the
19 cable ground conductor exists. And then, of course, later
20 on, you say that you need to, as part of the evaluation,
21 along with indirect measurements of ground integrity should
22 be performed. Without any good methods, what would you
23 really expect?

24 MR. GRIMES: I'll put it -- I'll turn it around
25 and put it another way: what is it that you propose to do?

 MR. COLAIANNI: Well, it's kind of a moot point
AN for Oconee, because measurements of the ground conductors
N were hypothetical. But, let's just say that it was -- I
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LE mean, I'm not sure -- you know, that doesn't give anybody

1 any guidance. It says, basically, there's nothing that's
2 good, that gives you good indication; yet, you're supposed
3 to find something that gives you reasonable assurance to
4 maintain the function. That doesn't really help anybody to
5 deal with the issue. It's kind of a circle that doesn't go
6 anywhere.

7 Is that sort of thing in other areas or does it
8 just happens a couple of times in electrical?

9 MR. LEE: I think it's probably electrical, okay.
10 But, the thing is that -- you know, that's why we are
11 providing this as a first cut, so we can get your comments.
12 If you have suggestions, you know, by all means.

13 MR. GRIMES: Yes, but in very general terms, I
14 would say that there are a lot of areas where we rely very
15 heavily on inspection activities defined and then an
16 evaluation process like an Appendix B process, to evaluate
17 what the appropriate corrective action is. In those cases,
18 we can't provide a whole lot of guidance where there is very
19 little experience.

20 This is like trying to deal with low probability,
21 high consequence events. We have an expectation that
22 there's a process by which the plant condition is going to
23 be monitored and you may not want us to be too terribly
24 prescriptive about the decision criteria that are used
25 beyond that. In many cases, we simply refer to the decision
process that's going to maintain the licensing basis and
decide what the appropriate action is.

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In other areas, like the vessel materials, there's
a -- there are well established programs with well

1 established decision criteria, and that's part of the nature
2 of the natural variability in some of it.

3 Other comments or questions? Yes?

4 MR. SANWARALLA: Mansoor Sanwaralla from Sargent
5 Lundy. Chris, a question I had is: do you go back and ever
6 say the GALL is being issued, at some point in time? I do
7 understand that you're trying to work out how you want to
8 issue the GALL, as part of this RP. And after that -- after
9 the point in time, do you still expect to keep revising GALL
10 or will it be done only one time after it gets issued?

11 MR. GRIMES: I'll go back to during the
12 introductory comments, we referred to the commitment that we
13 made to the Commission on how we're going to proceed with
14 this activity. At this point, I'll just say that our
15 obligation is to produce a generic aging lessons learned
16 report and a revised SRP for Commission approval. That was
17 what they requested of us. And so, we're going to do that.
18 We're going to produce a generic aging lessons learned
19 report, as best we can, to reflect the consensus opinion, or
20 at least to highlight those areas of controversy, and
21 request that the Commission approve it.

22 But, I would expect that like the Standard Review
23 Plan for the current license, that we would establish a
24 process by which that guidance would be revised in the
25 future. Now whether or not we consciously decide to keep
the GALL report up to date or whether it becomes a benchmark
reference and then future changes are simply referred -- are
rolled into an SRP change process, we haven't decided that
yet. That will be a part of the evolution of the process

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1 that we rely on after the Commission approves this initial
2 issuance.

3 MR. SANWARALLA: Thank you.

4 MR. GRIMES: The question in the back of the room
5 and then --

6 MR. DYLE: This is Robin Dyle of In Service
7 Engineering, again. And I might be asking a question that
8 other people know the answer to and, if so, I -- forgive me
9 for repeating something. But something you said today
10 raises a question: what is -- or who is the final arbiter
11 within the staff on the correct answer to how something is
12 adequately handled, as far as an aging issue? And what I'm
13 talking about is the license renewal branch versus a
14 technical branch, if there's an issue related to an
15 electrical component, do you rely solely on the expertise of
16 the electrical branch or the materials branch or whatever?
17 Is that something that is a joint effort? How is that
18 resolved?

19 MR. GRIMES: Actually, I think the best answer to
20 that question is that we are one NRC for which you deserve
21 one answer. There's no one individual in the NRC that bears
22 the whole responsibility for a decision-making process. It
23 gets back to a question that Dave raised earlier about the
24 appeals process. Ultimately, when a question goes far
25 enough, the arbitor is the Commission, and then beyond that,
the courts, because that's the system of government that we
operate within. We're only rarely taken to courts on
question of procedure or technical matters; but it's not
inconceivable. But, this particular issue about credit for

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1 existing programs is one that, you know, started at the
2 staff level and worked its way up until the Commission
3 became involved and they gave us direction. And that
4 process generally applies to almost everything that we do.

5 But, the whole answer to that question is that
6 everyone has a perspective and a contribution to make to an
7 agency position. Each of us, as individuals, have opinions
8 on the matter; but, until we write a position down and take
9 a position formally on any application or any licensing
10 matter, it doesn't really represent an agency position.

11 I knew David wanted to jump in on that one.

12 MR. LOCKBAUM: Yes. That sounds great, except
13 that's not the way it works. I mean, when I submit a 2.206
14 and I get my no in however many months it takes to send a no
15 back, I cannot appeal that. I can't appeal it to the
16 Commission. I can't appeal it to the courts. I've got to
17 take the Director's decision; one person telling me no. I
18 just don't know when. I know what the answer is going to
19 be.

20 The same thing happens with allegations. When we
21 submit an allegation, we get the answer back. If we
22 disagree with it, we have absolutely no appeal, except to
23 the media and Congress, I mean, within the agency. So, you
24 know, that's a great answer. It's just if that were the way
25 things worked, I'd be out of business. So --

[Laughter.]

MR. GRIMES: To get to the specific point, I'm not
AN going to argue about what your appeal rights are, and I
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RI think that you deserve a clear expectation, just like
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1 applicants and general other stakeholders deserve, you know,
2 a process description to how staff decisions are appealed.
3 But, as a -- you know, a very broad explanation, the staff
4 works issues up through the system. Some rise to the level
5 of importance that get management involved; some get worked
6 out at the staff level. And we're going to address your
7 concerns about your appeal rights separately from license
8 renewal, because it does apply to the overall regulatory
9 process.

10 But, in the meantime, our responsibility is to
11 make sure that the license renewal aspects, you know, fit
12 into the system, as best it can, and we'll resolve the
13 broader regulatory process questions in parallel with that.

14 Other questions or comments? Jack?

15 MR. GRAY: I'm Jack Gray with the New York Power
16 Authority. I'm new to the area of license renewal and I'm
17 sure that what I'm about to say has been said by others, who
18 are knowledgeable than myself. But, looking at the
19 regulated and reactive programs, it seems that the bottom
20 line for all of those is to make sure that the structure,
21 system, or component will perform its intended function when
22 it's called upon to do so. And by definition, that includes
23 whatever adverse effects may occur over a period of time,
24 aging effects.

25 So, it would seem to me there needs to be a fairly
substantial threshold before the NRC does not accept one of
those programs as being adequate for license renewal. And I
AN think that for most, if not all of these, there is NRC
N written guidance on what a substantial -- on what an
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1 acceptable licensee response is or on what the results of an
2 acceptable inspection should be. So the acceptance criteria
3 for these different programs should already be enumerated
4 and we should have been evaluated against them. So, I would
5 like to see the Commission to adopt the very substantial
6 threshold for rejection of any of those programs or for
7 asking for more.

8 MR. GRIMES: We'll pass that on to the Commission.
9 It's our expectation that the Commission is going to look
10 hard at the additional requirements associated with the
11 license renewal and how those are -- go above and beyond
12 what the current licensing basis requires. Whether or not
13 they are able to articulate to you the threshold that they
14 use for that decision might be somewhat difficult; but,
15 clearly, we expect a threshold that constitutes needed for
16 plant safety in that period of extended operation.

17 Other comments or questions? Anything at all?
18 You are either totally satisfied or -- yes?

19 MR. SIMPSON: I'm Joe Simpson with Southern
20 California Edison. I got a question about this document,
21 itself. Is this going to be posted on your Web site?

22 MR. GRIMES: Yes, some day. As you point out,
23 that's a fairly substantial document. Just getting it into
24 an electronic format and then finding somebody that will
25 make space available for us, it may take longer rather than
sooner. But, it is my intent that eventually GALL will be
accessible on the Web site.

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MR. SIMPSON: Is it possible to get an electronic
version of it?

1 MR. GRIMES: Not right now. It was hard enough to
2 just produce these paper copies for the meeting today. But,
3 when we do have an electronic version available, we'll let
4 you know on the Web site.

5 Yes, sir?

6 MR. POLASKI: Fred Polaski from PECO Energy. To
7 follow on a little bit about what Jack Ray was saying about
8 the programs, I think I heard a comment earlier this
9 morning, when you were talking about regulatory programs,
10 that those are not aging management programs, and a similar
11 comment when you were talking about reactionary programs a
12 little bit. I guess if I take a look at all the programs
13 that were mentioned specifically today, and I don't think
14 you came close to all the programs we've got, I'll contend
15 that everyone of those is an aging management program. You
16 may not find those words in the program, but they all deal
17 with aging. And if it wasn't for aging, we would have built
18 the plants, tested them, started running them, and most of
19 us wouldn't have anything to do, because all you would need
20 is operators.

21 So, most of the industry involves around aging and
22 management and repair and that kind of stuff. So, I think
23 every program we do manages aging. It may not have been
24 constructed in the format that you think about it today,
25 from a license renewal viewpoint, but it's there on all of
them. And so, I just bring that up, because I've heard that
today a little bit and I've heard it in past discussions
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N about, well, that program is not an aging management
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LE program. But, I think in reality, if you look at the reason

1 for the program, it manages aging, and that's true on
2 everything we do in the power plant.

3 MR. GRIMES: I agree with you. As a matter of
4 fact, I agree with everything you've said, as a matter of
5 fact, and I don't think that we're getting enough credit for
6 giving credit for existing programs for managing aging
7 effects.

8 [Laughter.]

9 MR. GRIMES: As I said originally, and you need to
10 be careful about broad generalizations. We started this
11 exercise, in order to try and find a way to identify the
12 basis upon which one can decide whether you -- whether
13 you're in the camp that says that 10 percent or less of the
14 existing practices need to be modified or added to, or
15 you're in the camp that says the number looks something more
16 like 40 percent, and that really gets to how you count
17 practices and how you count activities.

18 I would contend that the vast majority of programs
19 that are being relied upon for license renewal are existing
20 programs and that those programs manage aging effects. The
21 issue is: do they manage them enough; do they manage them
22 for the right things; do they manage them for all of the
23 effects that they need to manage; do they have appropriate
24 feedback mechanisms to learn and grown and evolve with time,
25 as the plant condition ages. That's the question that we're
trying to answer with this exercise. We hope that instead
of arguing about whether or not credit is being given -- let
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me dispel any rumors whatsoever at all. Credit will be
given to existing programs to manage aging effects. That's

1 a definite.

2 The question that we're going to try and respond
3 to the Commission is: to what extent to those programs need
4 to be augmented, was the term that the Commission used. And
5 we're going to have to explain to what extent to the
6 programs need to be augmented; to what extent do the
7 procedures, the practices, and the behavior need to be
8 changed for the purpose of granting a 60-year license. And
9 we're going to have to articulate how we came to that
10 decision. And we're looking to the feedback that you will
11 provide us, after you've had an opportunity to pour through
12 this report in more detail.

13 And before I forget it again, I was, also, asked
14 several side conversations about, well, how do I comment and
15 when and what are you going to -- how are you going to
16 decide. We're going to take the feedback from this workshop
17 and whatever comments you choose to offer to us by the time
18 that we start taking action and we're going to reflect on
19 those very broadly, in terms of trying to address the
20 stakeholder interest and what GALL is attempting to do.

21 But, then, next August, we're going to come out
22 with a formal document and we're going to go through a
23 formal commenting process, where specific questions or
24 specific issues that you want to raise, relative to the
25 scope of this delta that we're talking about, will be
addressed for the Commission. But, in the meantime, this
forum and whatever informal comments that we collect between
AN now and when we finally publish a version of GALL and the
N RI SRP and the Reg Guide for formal commenting, any feedback
LE

1 that you provide in the intervening time, we'll attempt to
2 incorporate in our planning and incorporate in our process,
3 so that this report has -- addresses as much of these
4 concerns as it can. I can't promise you, at this point,
5 we're to resolve all of them; but, at least, we'll know what
6 they are and we'll know how to try to characterize them, so
7 you will better understand where we're coming from.

8 MR. POLASKI: I agree with everything you say. I
9 think what we're looking at over the next couple of months
10 is a lot of work on both -- on everybody's part. And I said
11 it to some of my colleagues, that if this works right, it
12 probably could be the best thing that happens to license
13 renewal. If it doesn't work right, it could be the worst
14 thing that happens to license renewal. So, you know, it
15 very well could end up being that we get to the point in
16 three months or six months that we're saying the same thing
17 and understand what those words mean and both of us are
18 nodding heads at the same time and agreeing; good shape.

19 MR. GRIMES: Well, I do want to -- I will react to
20 that, to the extent of we know how to recognize success and
21 failure. We rarely try and design a process that's going to
22 fail. We would hope that we're going to define a process
23 that will succeed.

24 Other comments or questions? Yes?

25 MR. DYLE: This is Robin Dyle again. One more
question: relative to risk, and you mentioned earlier about
risk informing regulations, and at the fatigue meeting -- at
AN the fatigue workshop a few weeks ago, the point was made
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LE that even when one considers environmental concerns related

1 to fatigue, you end up with possibly more leaks; however,
2 the safety impact is negligible, wouldn't measure from a
3 risk perspective. Given that risk regulations are -- the
4 risk informing of regulations is occurring, that the risk
5 based inspection ISI program is being developed now in pilot
6 plant basis and being applied, what degree can risk be used
7 to address these aging management issues and have you
8 factored that in to what you're going to do in the future?

9 MR. GRIMES: The answer to the first part of your
10 question is: we recognize that we have a logistical
11 difficulty, because we're going to be trying to coexist in
12 developing essentially a deterministic basis for approaching
13 agent management, at the same time that the agency is moving
14 towards risk informing the regulations. So, to that extent,
15 we expect there's going to be a moving target on the
16 underlying system operability standards, if you will.

17 And at this point, I would say that we, also,
18 recognize that a part of that process for risk informing the
19 regulations recognizes the need to maintain defense and
20 depth and to have a firm foundation for making risk
21 decisions. It's conceivable within the future, we may
22 conclude that the lack of impact on core damage frequency or
23 the lack of -- or the relative importance of leakage
24 frequencies don't warrant some kind of regulatory control.
25 But, in the meantime, the only indicator that we have about
the effectiveness of a program to do its job is whether or
not there's a performance attribute that goes along with it.

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N And that's why we attached our decision criteria for fatigue
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LE to the performance indicator associated with leakage.

1 But, there's a lot that we still need to learn
2 about how to do risk informing the regulations properly, and
3 we're going to try to make sure that license renewal keeps
4 up with that. But, in the meantime, we'll concentrate on
5 trying to use the traditional techniques for judging the
6 effectiveness of aging management programs.

7 Other comments or questions? Yes, Mr. Bowman?

8 MR. BOWMAN: Marv Bowman, Constellation Nuclear.
9 I'd like to reiterate one thing I think has been said a
10 couple of times today, relative to -- again, this is all
11 supposed to be results oriented. And, at present, we have
12 two rules that both are focused on the same result: the
13 maintenance rule and the licensing renewal rule that focuses
14 on intended functions. Those two have some differences in
15 the process and some differences in tasks and activities to
16 be performed. When this is all over, I would hope that we
17 could arrive at something, which is an integration of those
18 two, as opposed to an overlaying of those two, that result
19 in redundant, duplicative activities that both tend to
20 accomplish the same thing. But, if we keep focused on
21 results intended functions and how aging affects those, I
22 think we'll get there.

23 The other comment I had was in terms of how many
24 programs are really existing programs. As you said before,
25 it depends on how you want to count them. But, when I think
about what's a program, I look at a combination of function,
material, environment, and aging affect. And if I count
AN programs from that standpoint, there are very few new
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RI programs for license renewal; very few, if any.
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1 MR. GRIMES: Thank you for that comment. And I
2 would tend to agree with you. As a matter of fact, the
3 ultimate in regulatory coherence will be the regulation says
4 keep the plant safe; you don't need any further guidance.
5 In the meantime, we'll continue to try and clarify the
6 regulatory standards with a little more detail than that.

7 Other comments or questions? I would, also, like
8 to point out that we are trying to go through a similar
9 exercise with the maintenance rule, in order to ensure that
10 we're not duplicating maintenance with requirements, but
11 actually taking advantage of them or reflecting them as part
12 of the basis upon which you can make judgments about aging
13 management. And we encourage you to help us point those
14 things out, too, in the GALL report.

15 Other comments or questions? Other topic areas
16 that you'd like to make sure that we get covered?

17 [No response.]

18 MR. GRIMES: If there are no other topics to
19 cover, Mr. Walters has indicated that he has some parting
20 thoughts that he'd like to share with us.

21 MR. WALTERS: Do you mean I get the last word,
22 instead of the regulator?

23 MR. GRIMES: Oh, okay.

24 [Laughter.]

25 MR. WALTERS: Well, first of all, I certainly
appreciate the opportunity to participate today with the
other stakeholders. And I think there were some good
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N insights and the explanations given, relative to the
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LE approach of GALL.

1 I would agree with your statement, Chris, that the
2 focus ought to be on program enhancements; but, I, also,
3 think that we have danced around the issue of what's the
4 standard that you apply to determine when those enhancements
5 are needed. And in that regard, I'll just make a few
6 observations.

7 There's no new aging that -- meaning that there's
8 no aging that occurs only after year 39. I think you, in
9 fact, even made that statement yourself. I think it's,
10 also, interesting that, at least what I heard, was reactive
11 programs are generally accepted, because there was a
12 specific focus or, you know, they did consider age, and,
13 yet, Part 50 doesn't seem to do that. The example of that
14 is we've heard that ISI is not adequate in some areas. We
15 head that 50.55(a), even though the statements of
16 consideration says this is okay for renewal, is not
17 adequate. That's rather interesting that that's an NRC
18 regulation and, yet, somehow that's -- to continue that into
19 the renewal period without some enhancement is unacceptable.

20 I think we should be very cautious about turning
21 the 10 attributes into requirements. That certainly was
22 never the intention of the way we wrote them in the guidance
23 document, the NEI 95-10. And I think, also, as we go
24 through GALL, picking up on a point that Jack Ray made, I
25 think we lost sight of really what we were trying to do in
renewal. I agree that perhaps the focus is on the
enhancements. But, I think the rule, at least in my reading
of it, is pretty clear that it's not just managing aging.
And, yet, that's all we talk about. It's just managing

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1 aging. It's managing aging to ensure functionality. That's
2 what is important. And so as we go through GALL, I think we
3 need to keep those two elements in front of us; not just
4 managing aging, but managing the aging to ensure
5 functionality, which, to me, means that you could have aging
6 that results in leakage, but you still may ensure the
7 function. And somehow, we've got to be able to balance
8 that. It can't just be are you managing the aging and
9 applying some interpretation to what that means.

10 I think what's going to be the real success or
11 failure of this, if those are the right terms to use, is how
12 all the effort that's put into GALL gets integrated into the
13 SRP, and I think even to -- I'd like to acknowledge that at
14 least the staff, I think, understands that, as well, in
15 talking about the template and so forth.

16 So, I would challenge all of us and the staff, in
17 particular, as they go through writing GALL, that just like
18 a license renewal applicant has to make a demonstration, I
19 think there's got to be a very well documented clear basis
20 for why any enhancement is needed. And it's got to be --
21 it's got to be a solid basis, that there is something about
22 the program that's not sufficient or not adequate and
23 there's something about the aging and the renewal period
24 that somehow renders that program not satisfactory, and I
25 think that's got to be well documented and well founded.
And that's a challenge, not only for the staff, I think for
all of us, as we go through our review.

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And on that point, I think that we, also, need to
be aware of whether or not the enhancements that we think

1 are needed, and I'll make that challenge directly to the
2 staff in preparing the GALL, whether that enhancement that's
3 needed is needed for a technical reason or is it a
4 procedural reason. Well, it didn't meet the 10 attributes.
5 Well, does that make it a technical/safety issue or is that
6 a process issue? And if it's a process issue, then I think
7 we need to give serious consideration to changing the
8 process. And I know that's on the long term or on the
9 horizon, at least, in the long term.

10 But, all that leads up to what I think is the
11 industry's expectation in this. I may have to come back and
12 revise this after I talk to the industry, but I think, you
13 know, certainly the industry's expectation is that GALL will
14 produce results much like we have in the GEIS, where we have
15 category one environmental impacts that are generically
16 resolved. The analysis is provided in the GEIS. But for
17 the license renewal applicant, it's resolved. That's where
18 the predictability and stability comes into the process.
19 And then you have category two issues, where you've
20 identified the delta or the enhancement or -- you know,
21 there's some basis given for why it couldn't be generically
22 resolved. And that's where we think we ought to end up with
23 in GALL and that's where we're committed to work towards and
24 we look forward to doing that with not only the NRC, but all
25 the stakeholders.

And thanks for the opportunity to make that
statement.

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MR. GRIMES: Thank you.

MR. WALTERS: Doug Walters, NEI.

1 MR. GRIMES: Dave, do you have any parting
2 comments you want to make?

3 MR. LOCKBAUM: No.

4 MR. GRIMES: Okay. I, similarly, would like to
5 sum up by thanking all of you for contributing, for
6 commenting, for providing us with your views. I do think
7 that there's a challenge, as Doug said, for us to move
8 forward and demonstrate an appropriate level of detail in
9 the evaluation of aging management programs. I would
10 contend that, you know, if it were -- if we were perfect,
11 and God knows we try to be, eventually the licensing process
12 will clearly articulate the expectation and it would be --
13 it would apply all the time and everybody would clearly
14 understand what the standards are. But, life isn't that
15 simple.

16 And so, we're going to go through and exercise and
17 then we're going to explain this to the Commission, in such
18 a way that they can make an informed decision about what the
19 standard is that we're proposing and why we're proposing it.
20 I think from what we've seen so far, my impression is we
21 have a real hard time justifying doing some of this stuff on
22 a cost benefit basis, but you don't have too much difficulty
23 at all defending having to do it on a basis of sound
24 engineering, good practices. And that causes a bit of a
25 dilemma for us, because we're really down into details here
 that can get argued individually and we need to step back
 and look at them collectively and then present them to the
AN public, in a way that makes the regulatory process credible.
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LE And so, it is going to be a large challenge for us to face

1 in the future.

2 I want to encourage you to read the report; look
3 at it with a critical eye, both from the standpoint of does
4 it go far enough or does it go too far. Because, as you
5 pointed out previously, the real underlying concern here is
6 one about whether or not this constitutes commitments that
7 go -- what you believe go above and beyond what you believe
8 is necessary; or, in some cases, it doesn't go far enough,
9 in the opinion of some people. And we want to understand
10 both. We want to understand the spectrum of views about
11 what constitutes an acceptable aging management program in
12 very specific details, because we do believe that aging is
13 being adequately managed in the existing licensed term. And
14 now, it's a question of making a decision on managing aging
15 for an extended term of operation.

16 I noticed with some interest that in -- I believe
17 that there's an issue inside NRC today that a news flash
18 announced that the French have now said that they want their
19 regulators to establish the standard for extended operation,
20 rather than to continue to license the French facilities on
21 a cycle by cycle basis or on an annual basis -- I can't
22 remember which it is. But, the expectation that the
23 international regulatory community is going to establish a
24 benchmark of how plants are going to be maintained for long
25 term operation now has become very, very important
internationally. And I think you're going to see more and
more countries moving towards establishing clear
AN requirements for extended nuclear power plant operation.
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LE And you have the luxury being on the cutting edge of that

1 technology.

2 And with that, I would like to thank all of you
3 very much for coming. Keep those cards and letters coming.
4 And we look forward to continuing this dialogue in the
5 future. Thank you, very much.

6 [Whereupon, at 4:05 p.m., the meeting was
7 concluded.]

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